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Report of the
Welfare Island
Planning and Development Committee

submitted to
John V. Lindsay, Mayor
City of New York
February 1969

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Planning and Development Committee**

submitted to
John V. Lindsay, Mayor
City of New York
February 1969

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INTRODUCTION

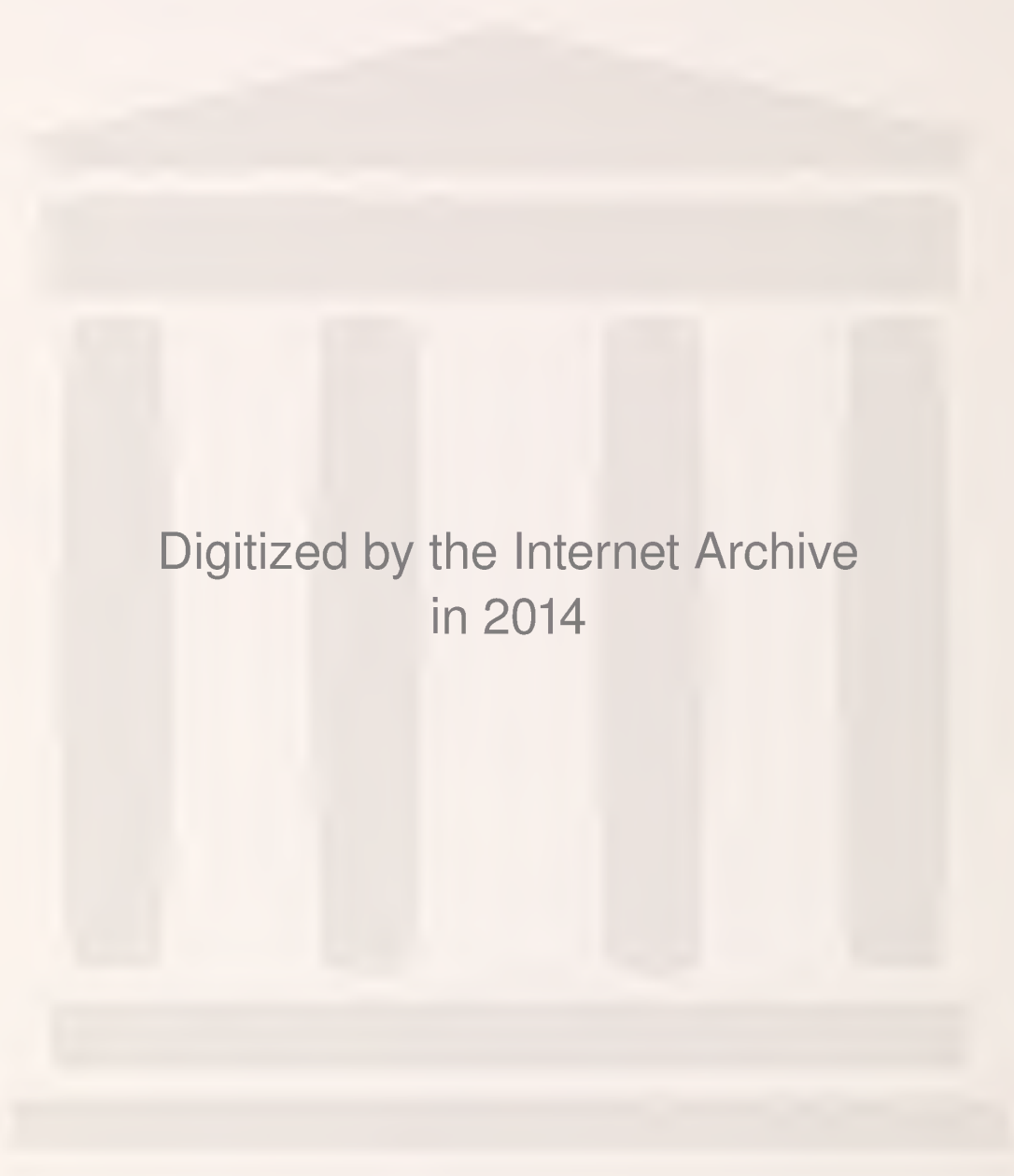
In January, 1968, Mayor Lindsay appointed the Welfare Island Planning and Development Committee to study Welfare Island and make recommendations for its future use. The Committee is composed of eighteen private citizens of New York and four city officials. The Committee engaged Development and Resources Corporation of New York to provide staff assistance.

In order to conduct its work without cost to the city, as the Mayor had requested, the Committee formed the Welfare Island Planning and Development Corporation, a New York membership corporation. The Committee's work was financed by contributions to the Corporation by members of the Committee and others. For this support, the Committee is most grateful.

During the past year, the Committee has reviewed the history and present uses of the island and has considered a variety of proposals in the light of the problems and opportunities presented by this unique piece of land belonging to the City of New York. The past history, present uses, and future possibilities were considered in detail in a series of ten reports and working papers, relevant portions of which are included in this report as Appendices A through F.

In seeking the widest range of ideas and the best informed opinion available, the Committee and its staff held discussions with a number of public officials and private citizens having knowledge of, or an interest in, Welfare Island. In addition, the Committee's own deliberations dealt extensively with the various alternatives and combinations.

The Committee's recommendations and conclusions drawn from these deliberations are presented in the following pages.



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RECOMMENDATIONS

The views of the Welfare Island Planning and Development Committee can be summarized as follows:

I. Hospitals

Welfare Island now contains two operating hospitals for the chronically ill and disabled, the Goldwater Memorial Hospital and the Bird S. Coler Hospital and Home. These hospitals should be retained on the island as city-operated, long-term-care hospitals. The physical plants of these hospitals are basically in good condition. The patient and staff conditions are generally satisfactory and there is no reason that these hospitals cannot be among the best of the city hospitals. Certain improvements in the physical facilities and the organization of the hospitals are indicated, as set forth in *Appendix B* to this report.

The hospitals will be made much more effective as a result of the implementation of other recommendations in the report, such as the construction of certain additions and improvements to the hospitals, specialized housing for certain patients, housing available to the hospital staffs, park and recreation facilities, and improved transportation.

In reaching its conclusions regarding the retention of the hospitals on Welfare Island, the Committee was influenced greatly by the financial impracticability of considering relocation of the hospitals at this time. The reproduction cost of comparable facilities elsewhere is in the \$150- to \$170-million range, exclusive of land cost, and it would not appear to be feasible for the city to undertake this expenditure in the near future. The fact that the hospitals are relatively satisfactory operations at the present time, and can be improved by other measures which the Committee believes should be taken on Welfare Island in any case, gives additional weight to this conclusion.

II. Transportation

The new subway line which will pass under Welfare Island opposite Sixty-third Street should include a station on Welfare Island to be completed simultaneously with the completion of this portion of the line. A station on Welfare Island, together with necessary escalators and other ancillary facilities, will add approximately \$1.5 million to the cost of this subway line. By including a station on Welfare Island, the new subway facilities will easily take care of all the transportation needs of the island which are foreseen to result from the implementation of the Committee's recommendations. The \$1.5 million cost is a relatively small investment to achieve the increased value of Welfare Island to the city that would result from the inclusion of this station in the initial plan.

The Welfare Island Bridge connecting Welfare Island and Queens should, of course, be retained, but the bridge approaches on the Welfare Island end need some modification. These approaches now form a "wall" that will inhibit effective integration of new developments to the north and south of the bridge. The bridge approaches could be incorporated into a new parking structure sufficient to meet the parking requirements of the island, thus reducing the on-island vehicular traffic to a minimum. Neither a bridge nor tunnel from Welfare Island to the Manhattan side is practicable or economically feasible. No attempt to adapt the Queensboro Bridge in such a way as to permit ingress and egress at Welfare Island is recommended at this time.

Suitable roadways, designed to conform aesthetically with the island's configuration and planned uses, should be constructed or extended on the island in such a way as to make all portions of the island accessible. Frequent and convenient internal bus or mini-bus service should serve all parts of the island.

Although water transportation to the island from the Manhattan side should not be relied upon as a major source of transportation for those who are required to live on or use Welfare Island habitually, it would be an attractive added source of transportation which might be preferred at times by persons moving between Manhattan and Welfare Island. The Welfare Island terminal for such ferry or other water services could also be constructed in such a way as to permit the accommodation of pleasure craft or other craft moving in the East River.

The results of a thorough study of the transportation aspects of the Welfare Island problem are set forth in *Appendix C* to this report, entitled "Transportation."

III. Demolition

Welfare Island still contains the abandoned remains of two older hospitals (not parts of Coler or Goldwater) and abandoned buildings from other city institutions of the past.

All these unneeded and unwanted unoccupied buildings now located on Welfare Island should be demolished as early as practicable. Seven such buildings have already been demolished pursuant to the recommendations of this Committee. This program should be extended to the other unwanted buildings.

In conducting the demolition program, attention should be given to certain of the buildings which should be preserved for architectural, historic, or religious interest as a part of the development recommended in this report.

IV. Housing

In addition to the improvements which should be made in present hospital facilities (as set forth in Appendix B), further facilities should be constructed in order to make the hospitals more effective. Housing should be constructed for patients who require the permanent, long-term care of the hospitals, but who are sufficiently ambulatory so that they do not require the intensive care required by a majority of the patients now housed in Goldwater and Coler Hospitals. Such facilities would permit these patients to live with greater comfort and mobility, in a happier surrounding, but with the special bathrooms, ramps, communications systems, and other aids required for patients of this type. Such facilities would also be less expensive for the city to operate than the type of hospital facilities now available.

Sufficient staff housing should be built to accommodate the professional staffs of the two hospitals and their families, the nurses, and other employees desiring to live on Welfare Island. Such a housing development would not be extensive in its nature, but would give greater life to the island and would greatly facilitate the operation of these institutions.

In order to provide a viable community life on Welfare Island that is not restricted to the aged, the infirm, and medical staff, sufficient additional housing should be included in the plan to achieve the minimum size required to justify the community facilities, convenience shopping, and services needed to provide adequate support to the resident community. This minimum size should be determined by the development corporation recommended in paragraph IX, but the Committee has in mind something on the order of 4,000 units, requiring the use of no more than about 20 acres of land.

The design of this community is of paramount importance. The success of the proposed Welfare Island development will depend in large measure on the excellence of its execution. There is an opportunity to create on Welfare Island a small housing community of unusual appeal, a community that could inspire higher aspirations in housing design in other areas. This opportunity must be taken full advantage of in the Welfare Island development. The design should avoid a wall of high-rise buildings creating a visual barrier that would be inappropriate to the valley that divides Queens and Manhattan.

It is not believed that Welfare Island should be the location for a large-scale housing development. A majority of the Committee feel that using the island in that way would be inconsistent with the principle that so unique and centrally located a piece of real estate should be used in such a way as to benefit the greatest possible number of New Yorkers, rather than the few who would benefit from the use of the island to meet their particular

needs. There is not sufficient acreage on the island to make a substantial contribution to the city's housing needs, and use of the island for this purpose would greatly diminish its present and future use and availability for other purposes that are believed by the Committee to be in the greater interest of a greater number of the members of the New York City community.

The staff study on housing that provided a background for the Committee's recommendations is included as *Appendix E*.

V. Parks and Recreation

The Committee feels strongly that a large area of green space and gardens should be included on Welfare Island. No city ever seems to have too much park or green space, and Welfare Island is ideally located to provide New York in future years with additional beautifully landscaped open space on which to play, stroll, reflect, and become refreshed. Who would want to change the decisions that resulted in the great parks of London, Paris, Washington, Sydney, and indeed, of New York City? The Committee believes that much of Welfare Island should be used as such an area.

Implementation of the Committee's recommendations with respect to Goldwater and Coler Hospitals, demolition, transportation, and housing would still leave some 80 acres of the island available for other uses. At the present time, it is the view of the Committee that the bulk of this space should remain open-space area, landscaped as parks and gardens. This will provide a source of pleasure and beauty not only for those who are on the island, but also for those viewing it from a distance, from the air, from the water, from the bridges, and from the Manhattan and Queens shores.

In carrying out such a park development, areas located adjacent to the hospitals could be developed in such a way as to provide maximum benefit to the patients of the hospitals. For example, there could be paths for walking and for wheel chairs and facilities for games of limited activity such as shuffleboard and chess. Also, the parks and gardens generally would provide a great source of pleasure and recreation to patients, staff, and families of those concerned with the hospitals.

In creating the parks, appropriate portions of the park space might be devoted to athletic fields, court games, children's playgrounds, swimming pools, ice skating areas, and other facilities of this type, which increase utilization but do not detract from the open-space nature of the use. It would be fully consistent with this park usage to retain the

existing churches and those buildings, or portions of buildings, that have sufficient historic significance or architectural interest. In the future, when the new subway facilities have been installed and the amount of usage of the area justifies their consideration, the facilities now recommended might be extended to include museums, concert shells, and restaurants. The extent to which more intensive recreational facilities may be justified at a later date will depend upon public response to the additional transportation facilities on the island. The Committee is strongly disposed against roller-coaster, ferris-wheel type of thrill rides or carnival appearance on Welfare Island. We feel that, taking the long-range point of view, such a use of Welfare Island might be as great a travesty as would have been a similar corruption of Central Park.

Open-space and park use of a large part of Welfare Island will add another bit of free space for the population of a crowded and cramped city. Therefore, this recommendation requires no added justification. However, this use of Welfare Island does have the added merit of being essentially non-committal. If the park utilization in time fails to justify itself and develop its own constituency, it is always possible without economic penalty or serious dislocation to consider more intensive development of open areas. It is more difficult to back away from more intensive developments and convert them to open space.

VI. Fire Department Training Facilities

Welfare Island is presently the site of certain training facilities and activities that are essential to the operations of the Fire Department. A substantial portion of these activities are inconsistent with the increased and improved use of the island as recommended by the Committee. It is the view of the Committee that the Fire Department operations should be removed from Welfare Island as the development envisaged by the recommendations of this report proceeds. It will be necessary, before the Fire Department can discontinue its operations on Welfare Island, to obtain a suitable site off the island and to give the Department time to construct the facilities required for this program. The phasing of this move, like the timing of the implementation of the Committee's other recommendations, will be the responsibility of the development corporation recommended in paragraph IX, acting in conjunction with the Fire Department and other city agencies concerned.

VII. Other Uses

In its deliberations, the Committee considered a number of other possible uses of Welfare Island. Some of these deserve special mention in this report, even though they are not the subject of affirmative recommendations by the Committee.

Nuclear Power Plant — One of the most important of the other possible uses considered for Welfare Island is a nuclear power plant. This possibility is discussed in some detail in *Appendix F*, entitled “Nuclear Power Plant.” Consolidated Edison would like to be able to consider in their future development plan the possibility of a nuclear power plant at the southern end of Welfare Island. In order to avoid any public misunderstanding, it should be clearly understood that: 1) Con Ed has no plan to proceed with such a plant in the immediate future and it would probably be at least ten years before their plans would call for construction of such a facility; and 2) the Atomic Energy Commission would not now approve the construction of such a plant on Welfare Island even if Con Ed and the city government were desirous of proceeding.

In these circumstances, Con Ed did not desire an affirmative recommendation by the Committee that such a plant be favorably considered for a future date. Their only interest was that the Committee not recommend other uses of the south end of the island that would foreclose this possibility. Since the Committee had no desire, independently of the nuclear power plant question, to recommend a new use of the southern tip of the island that would foreclose the possibility of such a plant, it was not necessary to resolve this point within the Committee.

Certain members of the Committee felt that we should express the view that there should never be an atomic plant on Welfare Island, and that to hold open that possibility would be prejudicial to the implementation of some, if not all, of the development plans envisaged in this report. They felt that Welfare Island could be better used for other purposes and that, if safety considerations were ever sufficiently clear to make Welfare Island a tenable site, it would follow that there were other tenable sites less strategically located for other purposes. According to this point of view, if the river is necessary or desirable as insulation or shielding for an atomic plant, then by definition the safety requirement would not have been sufficiently met to justify the use of Welfare Island.

Others on the Committee felt that since this matter was, in any case, ten years or so in the future, it would be better to leave the decision to that future date when the factors for consideration are better developed. This segment of the Committee was content to leave the matter where it fell naturally, i.e., that no foreclosing recommendation had been made for the south end of the island, but that this was not a product of the desire to hold this area open for a nuclear power plant.

The Committee was unanimously of the view that it had not made and was not aware of the existence of a sufficient study to enable it at this time to pass upon the vastly complex technological and other considerations that would be involved now, or at some future date, in determining the acceptability of a nuclear plant on Welfare Island.

World Center for Urban Development — The Economic Development Council of New York City, a very distinguished group of New York citizens, submitted to the Committee a study by the Research Analysis Corporation recommending the creation on Welfare Island of a world center for urban development. While the Committee appreciated the initiative of the Economic Development Council and the thoroughness of the study which was presented, it did not feel that the recommendation had such overwhelming merit as to justify attempting to overcome the practical difficulties involved in its implementation.

Center for Industrial Research — Prior to recommending the world center for urban development, the Economic Development Council had recommended, by letter, the consideration of the use of Welfare Island as a center for industrial research. After what is believed to have been a sufficiently thorough consideration and study of this possibility, the Committee concluded that this possible use should not be the subject of an affirmative recommendation.

Center for United Nations Exhibits — A suggestion was made by a member of the committee, who is not associated with the United Nations, that Welfare Island should be divided into the same number of parcels as there are nations represented at the U.N. (or as an alternative, the number of parcels that there are nations at the U.N. desiring such parcels) and that the land thus made available be used by each nation for an exhibit of its industry, culture, history, or whatever such nation might choose to display. For a number of reasons, however, including problems of financing and permanent maintenance, it was considered that this would not be a practical proposition.

A University Center — A number of suggestions were received by the Committee for creating on Welfare Island a city university, a state university, or a medical university complex. While these suggestions are appealing, they did not, upon investigation, seem practicable.

Sale of Welfare Island to the Highest Bidder — It was suggested that Welfare Island should be put up for sale to the highest bidder, who would be required to submit along with his bid an acceptable development plan, and thus leave the development of Welfare Island to the forces of free enterprise. This was not regarded by a majority of the Committee to be an acceptable program for the island.

Intensive Housing Development — A number of programs were suggested or submitted for using Welfare Island in its entirety for an intensive high-rise housing development. The preceding sections of this report make clear the Committee's attitude with respect to these recommendations.

Correctional Institutions – A number of suggestions were received for the placing of various types of correctional institutions on Welfare Island. Reform schools, narcotics addiction treatment centers, mental institutions, prisons, and other like institutions were included. In general, it was felt that Welfare Island had no peculiar merit for institutions of this type and that, therefore, the island could be better used for purposes for which its location makes it singularly suited.

Domed Stadium with Parking—A suggestion was received from several sources that New York City needed a domed stadium and that Welfare Island was a centrally situated location for such a stadium, with ample space for provision of the necessary parking. While the location of Welfare Island is certainly central, transportation to and from Welfare Island is not adequate to the requirements of such a stadium. This inadequacy will continue even after the subway connection is completed.

Other – The foregoing are but a few of the more frequently received suggestions. The full list covers every conceivable use of Welfare Island, including licensed areas for gambling casinos, thus “solving” the city’s fiscal problems as well as developing Welfare Island. All of these proposals were considered before the Committee’s conclusions were finalized.

VIII. Pollution Control

At the present time, all the sewage from Welfare Island is dumped into the East River without treatment. This is recognized by the city to be an unacceptable practice and the Department of Water Resources has alternate plans for sewage treatment facilities, which it can implement reasonably promptly. Since the present practice will become increasingly unacceptable as the uses of Welfare Island are extended, it is recommended that the Department of Water Resources select the plan best suited to the land uses recommended in this report and that the installation of the necessary sewage disposal facilities be carried out promptly.

Solid waste disposal is also a problem which should be reviewed to make certain that the present and future facilities are adequate. In view of the progress the city is making in reducing its air pollution, it is essential that no practices be permitted on Welfare Island that represent a bad example in this respect.

IX. Organization for Carrying Through

The recommendations which the Committee has arrived at are necessarily general in nature. Their effectiveness will depend upon the quality of the implementation and follow-through. Many decisions will be required in the future and wise implementation is the essence of any program. The Committee is of the opinion that a single managing organization should be responsible for the development of Welfare Island. The appropriate city agencies would, of course, retain the management of their own affairs, such as the continued operation of the hospitals by the Department of Hospitals.

In order to assure maximum quality in carrying forward the programs on Welfare Island, it is our view that this responsibility should be put into the hands of a multipurpose development corporation with the power to receive federal, state, and local funding assistance, and with the power to issue bonds and enter into private contractual arrangements.

It is possible to accomplish this by creating a new special-purpose development corporation for Welfare Island similar to the Battery Park City Corporation or the United Nations Development Corporation. A second possibility would be to place these powers in a subsidiary of the New York State Urban Development Corporation.

Whichever organization is ultimately charged with the responsibility for the future development of Welfare Island, it is the view of the Committee that representatives of the city departments concerned in the affairs of the island such as health, housing, parks, and planning should be included on the corporation's board, together with selected private citizens whose experience and interest could contribute to the excellence with which the Welfare Island plan is carried out. Whatever instrument is finally selected must have sufficient powers and financing capability to carry out the development task effectively, while at the same time, assuring the preservation of the city's vital interests.

X. Name

Various recommendations have been received by the Committee for changing the name of Welfare Island. Suggested names have included *East River Island*, *East Island*, *Minnahanock Island* (the early Indian name of the island), and others. While the Committee has not addressed itself to the question of what new name should be adopted, it does feel that the name Welfare Island is now obsolete and will be increasingly so as the island is developed. Therefore, it is our opinion that the island should be renamed.

CONCLUSION

Ideas with respect to the best use or combinations of uses for Welfare Island are so numerous that no program is likely to enjoy majority support. The Committee has attempted to arrive at those affirmative recommendations that have the greatest foundation in wisdom and judgment at the present time. They may not all prove to be the best possible recommendations for the indefinite future. For example, the hospital use should be re-examined from time to time, as should the other uses. It will be particularly appropriate to re-examine the land-use program after the new subway line between Welfare Island and Manhattan is in operation.

The recommendation of the Committee that there be a capable and representative management organization to follow through the recommendations of this report provides a mechanism for continuing re-examination of the basic premises. The Committee feels that such a continuing re-examination is desirable.

There are a number of plans for Welfare Island that are far more ambitious than the programs herein contained. For example, it has been suggested that a series of Ponte Vecchio-type bridges might connect Welfare Island with Manhattan and with Queens, thus imparting to Welfare Island and the Queens shore the land values of Manhattan's East Side. It has also been suggested the United Nations building might be connected to a similar building on Welfare Island by one or more corridors extending between the two buildings at various levels. These plans should continue to be reviewed as they are developed, but no plan of this magnitude was felt by the Committee to have sufficient practicability at this time to justify its recommendation.

A Note Concerning The Appendices

During the course of the studies leading up to this report, an earlier report and nine working papers were written by the staff on various development problems and opportunities. The following appendices contain pertinent excerpts from these documents, modified in some cases to reflect the final judgements of the Committee, to correct inaccuracies, or to include more recent information.

The first appendix is drawn from a report entitled "Welfare Island – Yesterday and Today" which was originally released in April 1968. The next four appendices – on the hospitals, transportation, recreation, and housing – present background information on New York City and on Welfare Island that helped to shape the Committee's final decision on the island's future. The sixth appendix, entitled "A Nuclear Power Plant," discusses a proposal that was considered but not incorporated into the final plan.

Appendix A

WELFARE ISLAND – YESTERDAY AND TODAY

Introduction

Welfare Island, a sliver of city-owned real estate lying in the center of the East River, contains about 147 acres of underutilized land on the doorstep of the country's greatest metropolis. Since its purchase in 1828 by the city, it has served a variety of welfare and correctional functions. It has been the site of alms houses, insane asylums, and a prison, and has been the location of four major hospitals, two now abandoned. Access to the island has always been awkward. Although it lies in the clear view of many, few people have any real knowledge of the island and its life. Journalists' preoccupation with the bizarre and the scandalous . . . and both have been associated with the island . . . have colored the public image of the place.

Since the closing of three major public institutions on the island in the 1950s, about one-half of the land area has been almost totally unused, filled with decaying buildings and the abandoned relics of their former functions. Public and private interest in utilizing this valuable real estate has produced a number of conflicting proposals for its use. None of the proposals so far have been so thoroughly developed, so vigorously developed, and so persuasive to the responsible authorities that they have progressed to the point of action.

In 1967, the city administration moved to form a citizen's group to assist in exploring and determining the best use for the island. In February 1968, the Welfare Island Planning and Development Committee was formed, consisting of eighteen private citizens and four ex-officio members of the city administration.

In its first meeting on February 13, 1968, the Committee decided to begin its activities by a quick but thorough review of the history, the physical features, and the setting of the island, together with a summation of the proposals of current interest for the island's redevelopment. The following report was designed to accomplish this first step. It was prepared by Development and Resources Corporation of New York, general advisor to the Committee and to its successor, the Welfare Island Planning and Development Corporation, and was first issued as a separate report on April 9, 1968. Except for minor corrections, the present text is essentially unchanged from that earlier version.

History of the Island

Originally the island was known by the Indian name of Minnahanock (“an island place”). When the Dutch acquired the island in 1637, they called it Varcken Eylandt (“Hog’s Island”) because of the pigs raised there. It later passed to the British who called it Perkens Island. In 1668, Captain John Manning, a British officer, bought the island and gave it his name. Manning surrendered New York to the Dutch in 1673 and, following its recapture by the British, he barely escaped execution for treason. Manning retired to his island in disgrace and lived there until his death in 1686. The title to the land then passed to his son-in-law, Robert Blackwell, and the island was known as Blackwell’s Island until 1921. The “Blackwell Mansion,” a decaying wooden frame building in the center of the island still remains.

On July 19, 1828, the City of New York purchased the island from the Blackwell family for an initial payment of \$32,500, with an additional \$20,000 paid later to one of the Blackwell heirs. From the beginning, the city used Blackwell Island as a place for charitable and corrective institutions.

Charles Dickens visited the island and described it in his “American Notes” published in 1842.* At that time, a part of the main building of Metropolitan Hospital, then being used as an insane asylum was already completed. There was also a prison and an alms house.

After the insane asylum buildings were converted to Metropolitan Hospital in 1894, the hospital was expanded. Most of the construction presently remaining was in place by 1910 except for additions to the laundry building constructed in the 1930s and other minor structures. Metropolitan Hospital continued to serve as a major general hospital until it was abandoned in 1955. The City Home for Dependents, located to the south of Metropolitan Hospital, started out as an alms house for indigent citizens. Due to the need for medical

*“One day, during my stay in New York, I paid a visit to the different public institutions on Long Island, or Rhode Island: I forget which. (It was Blackwell’s Island.) One of them is a Lunatic Asylum. (Which later became Metropolitan Hospital.) The building is handsome; and is remarkable for a spacious and elegant staircase. The whole structure is not yet finished, but it is already one of considerable size and extent, and is capable of accommodating a very large number of patients.

“I cannot say that I derived much comfort from the inspection of this charity. The different wards might have been cleaner and better ordered; I saw nothing of that salutary system which had impressed me so favourably elsewhere; and everything had a lounging, listless, madhouse air, which was very painful. The moping idiot, cowering down with long dishevelled hair; the gibbering maniac, with his hideous laugh and pointed finger; the vacant eye, the fierce wild face, the gloomy picking of the hands and lips, and munching of the nails: there they were all, without disguise, in naked ugliness and horror. In the dining-room, a bare, dull, dreary place, with nothing for the eye to rest on but the empty walls, a woman was locked up alone. She was bent, they told me, on committing suicide. If anything could have strengthened her in her resolution, it would certainly have been the insupportable monotony of such an existence.

services, it was gradually expanded into a combination nursing home and home for the aged. In addition, pavillions for male and female blind were added in the late 1890s. A physio-therapy building in 1908 and a female industries building in 1915 were the last major structures added. The City Home was closed in the 1950s.

Nursing as a profession did not develop substantially until after the Civil War. In 1875, the New York Training School for Nurses was opened in City Hospital and in, 1892, a school of nursing was opened in Metropolitan Hospital. A new home for nurses, Draper Hall was opened in 1909 on the northern tip of the island. This building was demolished within the last few years. Housing for nurses continued to be an acute problem for many years until the Central Nurses Residence was constructed in the center of the island in 1939. Due to abandonment of some of the hospital facilities and changing preferences in nurses' housing, one-half of the 550 rooms in this residence are now empty. The New York City Cancer Institute, with a capacity of 192 beds, formerly occupied some of the structures in the City Home area. It was one of two cancer hospitals in the city, the other being in Brooklyn. New York City Hospital was opened in 1832 and the main building on the northern end of the site was erected in 1870. It was the largest and best municipal hospital in the county at the time. The hospital continued to grow and develop during the years with some major construction as late as 1930. This hospital was abandoned in 1957, and its patients transferred to Elmhurst Hospital in Queens.

The prison, constructed on the site that now contains Goldwater Memorial Hospital on the southern end of the island, colored the life of the island until its demolition in the mid-1930s. Prison labor was used to quarry the granite on the island, which was used for construction of many of the institutions on the island as well as for city institutions elsewhere. Prison labor was also used for many of the hospital functions until the early 20th century, when public pressure forced officials to withdraw the prisoners and substitute paid labor.

"The terrible crowd with which these halls and galleries were filled, so shocked me, that I abridged my stay within the shortest limits, and declined to see that portion of the building in which the refractory and violent were under closer restraint. I have no doubt that the gentleman who presided over this establishment at the time I write of, was competent to manage it, and had done all in his power to promote its usefulness; but will it be believed that the miserable strife of Party feeling is carried even into this sad refuge of afflicted and degraded humanity? Will it be believed that the eyes which are to watch over and control the wanderings of minds on which the most dreadful visitation to which our nature is exposed has fallen, must wear the glasses of some wretched side in Politics? Will it be believed that the governor of such a house as this, is appointed, and deposed, and changed perpetually, as Parties fluctuate and vary, and as their despicable weathercocks are blown this way or that? A hundred times in every week, some new most paltry exhibition of that narrow-minded and injurious Party Spirit, which is the Simoom of America, sickening and blighting everything of wholesome life within its reach, was forced upon my notice; but I never turned my back upon it with feelings of such deep disgust and measureless contempt, as when I crossed the threshold of this madhouse.

The prison was the scene of numerous scandals. By 1914, conditions at the prison were so poor that Dr. Katherine B. Davis, the new commissioner of the Department of Correction, advocated the construction of a new prison hospital and disciplinary quarters. Dr. Davis also devoted herself to a fight against the smuggling of narcotics onto the island. Within a year, five arrests and convictions had been made of staff personnel engaged in the sale of narcotics to inmates.

A report to the State Commission of Prisons in 1921 documented the conditions more fully. The prison was described as "one of the worst in the State and a disgrace to the City of New York." In April of 1921, the Committee on Public Thoroughfares of the Board of Aldermen recommended to the mayor that the name of Blackwell's Island be changed to Welfare Island in order to remove the stigma attached to the former name. Within a few days, the mayor issued a proclamation that Blackwell's Island should hereafter be known as Welfare Island.

In 1924, a report of the State Prisons Commission recommended abandonment of the penitentiary and the transformation of Welfare Island into a playground. In the spring of 1924, a Grand Jurors' Committee recommended erection of a new modern penitentiary and industrial buildings on Riker's Island. In October 1925, the Board of Estimate appropriated \$100,000 for a prison on Riker's Island.

During these years, Welfare Island continued to be a center for the treatment of drug addiction. The chief of the Division of Criminal Records of the Department of Correction reported that sixty percent of the persons committed to the workhouse in 1925 were drug addicts or connected with illicit traffic in narcotics.

The late twenties and early thirties saw little change in conditions on Welfare Island. On December 3, 1927, the State Commission on Prisons reported that, although thousands of dollars had been spent for plans for a new penitentiary and prisoners were clearing a site

"At a short distance from this building is another called the Alms House, (This was probably the predecessor of the City Home for Dependents.) that is to say, the workhouse of New York. This is a large Institution also: lodging, I believe, when I was there, nearly a thousand poor. It was badly ventilated, and badly lighted; was not too clean; and impressed me, on the whole, very uncomfortably. But it must be remembered that New York, as a great emporium of commerce, and as a place of general resort, not only from all parts of the States, but from most parts of the world, has always a large pauper population to provide for; and labours, therefore, under peculiar difficulties in this respect. Nor must it be forgotten that New York is a large town, and that in all large towns a vast amount of good and evil is intermixed and jumbled up together.

"In the same neighbourhood is the Farm, where young orphans are nursed and bred. I did not see it, but I believe it is well conducted; and I can the more easily credit it, from knowing how mindful they usually are, in America, of that beautiful passage in the Litany which remembers all sick persons and young children.

on Riker's Island for its construction, no money was in sight for the actual construction of the prison.

In the years between 1929 and 1934, three riots occurred at the penitentiary. During these years of riot and rebellion, reports of the poor conditions within the prison continued to make headlines. Nine million dollars was finally appropriated for the prison on Riker's Island, which was to be completed by 1933.

Welfare Island was declared an unrestricted district in 1933 so as to facilitate the construction of new buildings and changes in those already existent. Although there were no records to show that the island had ever been zoned for residential use, it was technically within an adjacent residential area and the new zoning was designed to remove any possibility of doubt pertaining to its legal use.

This brief review only touches certain highlights of the island's history. More details about specific areas are given in the section entitled *Present Facilities on the Island*.

The Island and its Environment

Welfare Island lies in the heart of New York City and should be studied in the context of its environment. This section discusses the location and size of the island, the river that surrounds it, the bridges, utilities, and other links between the island and the Manhattan and Queens shores, and finally provides a view of the shorelines themselves.

"I was taken to these Institutions by water, in a boat belonging to the Island jail, and rowed by a crew of prisoners, who were dressed in a striped uniform of black and buff, in which they looked like faded tigers. They took me, by the same conveyance, to the Jail itself. (The Jail was located where Goldwater Hospital now stands.)

"It is an old prison, and quite a pioneer establishment, on the plan I have already described. I was glad to hear this, for it is unquestionably a very indifferent one. The most is made, however, of the means it possesses, and it is as well regulated as such a place can be.

"The women work in covered sheds, erected for that purpose. If I remember right, there are no shops for the men, but be that as it may, the greater part of them labour in certain stone-quarries near at hand. The day being very wet indeed, this labour was suspended, and the prisoners were in their cells. Imagine these cells, some two or three hundred in number, and in every one a man locked up; this one at his door for air, with his hands thrust through the grate; this one in bed (in the middle of the day, remember); and this one flung down in a heap upon the ground, with his head against the bars, like a wild beast. Make the rain pour down, outside, in torrents. Put the everlasting stove in the midst; hot, and suffocating, and vaporous, as a witch's caldron. Add a collection of gentle odours, such as would arise from a thousand mildewed umbrellas, wet through, and a thousand buck-baskets, full of half-washed linen—and there is the prison, as it was that day."

Location and Size

Welfare Island is about 800 feet wide and almost two miles long, a thin strip of land dividing the East River into two approximately equal channels. The southern tip lies opposite 48th Street and the northern end stretches to 86th Street.

The island was not always as regular in topography and perimeter as it is today. Fill dirt has been added in places to extend the original main island to encompass small outcroppings to the north and south and to produce a more regular perimeter.

Past documents show the island as being about 120 acres. It is presently described as having about 147 acres. If the island were extended to the limits of the bulkhead line established by the U. S. Corps of Engineers, it would increase to about 170 acres.

In the next few years, construction of a water tunnel under the northern part of the island and a subway tunnel under the southern part will produce a large amount of fill material, which could be used to increase the island's dimensions within the bulkhead line.

The present topography is low and fairly flat. Available early records do not show past topography, but it is reasonable to suppose that there were outcroppings of granite that were leveled in the course of the quarrying operation carried on by prison labor in the 1800s.

Available boring logs indicate that fairly solid rock lies a few feet below the surface over a large portion of the island. Exceptions to this rule occur where the land has been built up with fill material.

East River

The East River is a tidal strait running between Long Island Sound and New York Bay. The river is divided by Welfare Island into the East Channel on the Queens side and the West Channel on the Manhattan side.

The currents reverse with the tides and average 3.9 to 4.0 miles per hour during ebb tide in the East Channel at 36th Avenue (Queens) and 4.4 to 5.4 miles per hour during ebb tide in the West Channel at 72d Street. Maximum currents during the spring tides may be greater.

The West Channel averages about 650 feet wide and 35 to 60 feet deep along most of its length, with one spot over 100 feet deep. Most river traffic uses this channel because of its depth and because of the 131-foot fixed clearance under the Queensboro Bridge.

The East Channel varies from about 550 to 950 feet in width. The center of the channel runs about 30 feet in depth, and there are several areas of restricted depth near the Queens abutments of the Queensboro and Welfare Island bridges. Traffic in the East Channel is limited by low clearance under the Welfare Island Bridge, but does include fuel barges supplying the Welfare Island power plant, as well as barges supplying shore-based installations in Queens, such as Consolidated Edison's Ravenswood plant.

The U. S. Corps of Engineers is responsible for maintaining the navigable channels in the East River and must pass on any construction or modifications that would affect navigation.

Water Access

Before construction of the Queensboro Bridge and the elevator from the bridge to the island, all transportation to and from the hospitals, prison, and alms house on the island was by boat. The New York and East River Ferry Company and the Brooklyn Ferry Company provided service to the island. The last regular boat service was provided by the Department of Marine and Aviation steamship "Welfare." This 255-ton ferry had 285 seats, and made the crossing from the 78th Street pier in Manhattan to the Island between 1935 and 1956.

Now the only users of water transport to the island are the fireboats, which occasionally dock at a pier on the western side of the island, and fuel barges.

The Queensboro Bridge

As early as 1837, designs were proposed for an East River crossing at the island, then called Blackwell's Island. In 1900, the city authorized design and construction of a cantilever-truss bridge, and pier construction began in 1901. Numerous design changes delayed completion, and the bridge was not officially opened until June, 1909. It was then known as the Blackwell's Island Bridge.

The original cost was \$18,131,500, of which \$4,635,000 was for land. The bridge is of monumental proportions, even by present standards, and is the most heavily traveled of the East River bridges.

Two pairs of massive granite piers rest on the east and west shores of the island, but the bridge provided no other contact with the island until the Elevator and Storehouse Building was completed in 1918, providing elevator service for vehicles and pedestrians between the bridge and the island.

Although the vehicular elevators have not served the bridge since 1956, it is still possible to walk from Manhattan over the sidewalk on the south side of the bridge's upper level, descend a stairway, and cross under the bridge on a walkway, entering the Elevator Building at the ninth floor level. Elevator service for pedestrians is available weekdays from 7:30 a.m. to 6 p.m.

Since it was opened, the bridge has undergone numerous modifications. An elevated railroad operated on the upper level until 1942 and trolley cars operated in the outboard lanes of the lower levels until 1957. The rail lanes were converted to highways, making seven lanes available on the lower level and four on the upper level.

Although the Queensboro Bridge is no longer significant in providing direct access to the island, its enormous bulk forms a significant part of the environment of the middle of the island.

The Welfare Island Bridge

The Welfare Island Bridge is a two-lane lift-span over the East Channel, and was constructed in 1955. It was given the American Institute of Steel Construction's 1955 Annual Award of Merit for the most beautiful steel bridge (Class IV).

The bridge connects the island to 36th Avenue in Queens. The Q102 bus shuttles between Queensboro Plaza and the island, providing the only present public transportation link.

Failure of a submarine power cable two years ago made it impossible to operate the lift-span, and the East Channel is now closed to all but low profile vessels. It is expected that installation of a new aerial power cable in the near future will make the bridge operable again.

Until recently, a guard on the bridge denied access to the island except to those having passes or specific reasons for entering. At present, there is no checking of either vehicles or pedestrians.

Subways

Two existing subways pass under Welfare Island. The IND Division E and F trains use a tunnel at 53rd Street*, and the BMT Division operates trains between Manhattan and Astoria or Forest Hills through a tunnel at about 60th Street. These tunnels contain neither stations nor provisions for stations at Welfare Island. It is possible, however, to evacuate passengers through emergency exits to the island's surface, and this was done during the 1966 blackout when a train was stalled under the island. It would be expensive and difficult to add Welfare Island stations on either of the existing subway lines.

A new rapid transit tunnel under the East River has been under consideration for some time to relieve overcrowding on the existing tunnels. After extensive studies, and several relocations and redesigns, plans are now nearing completion for a new tunnel at 63rd Street. This tunnel will have a single large tube, containing two subway tracks on the upper level and two tracks for the Long Island Railroad on the lower level. The tunnel will pass under the tennis courts south of the Central Nurses Residence, where an access shaft will be excavated during the tunnel construction.

As presently*planned, the 63rd Street tunnel will contain provisions for adding a subway station at Welfare Island. The initial construction will include a widened tunnel section to accommodate station platforms. Entrances, escalators, and other station construction could be added later with minimum difficulty. No access to the Long Island trains on the lower level could be provided.

The Transit Authority has estimated that the new subway line will be in operation by 1975**, and that the Welfare Island station could be operative at the same time if a decision to complete the station is reached within the next two years.

Utilities

Water, gas, and electric lines are the umbilical cords attaching the island to the rest of New York. Water and electric lines are carried via the Queensboro Bridge, and gas is supplied by risers from a tunnel approximately 130 feet below the surface. Heat is supplied from the

*i.e., if 53rd Street in Manhattan were extended, it would cross the island at the tunnel's location. This system of locating points on the island by reference to Manhattan cross-streets is used widely in this report.

**later revised to 1976.

island's power plant. Untreated raw sewage from the hospitals and other facilities is dumped directly into the East River through a number of outfalls. Some solid wastes are removed by Department of Sanitation trucks and some are burned in incinerators on the island.

The Manhattan Shoreline

The Manhattan shoreline viewed from the western bank of Welfare Island presents an almost solidly built-up facade: from the United Nations Secretariat Building southwest of the island to Carl Schurz Park and Gracie Mansion opposite the northern tip. Between these points lie multistory luxury apartment buildings along Sutton Place and East End Avenue, with the massive structures of Rockefeller University and New York Hospital providing a striking contrast with the abandoned area at the center of the island just a few hundred feet across the channel. The East River Drive, stretching at the base of this panorama, generates a continuous rushing sound contrasting with the relative silence of the island.

Most of the facing Manhattan shoreline is intensely developed, with little opportunity for further change which could be coordinated with the development of Welfare Island.

The Queens Shoreline

In contrast with the Manhattan shoreline, the area of Queens facing Welfare Island contains a large proportion of vacant and underutilized land with development potential. Most of the shore line contains light industry, parks, and housing. Consolidated Edison's Ravenswood power plant, opposite the center of the island, provides the only intensive land use on the Queens shore. Much of the Astoria community facing the island from the northeast has been industrial in the past and is undergoing a transition to residential development brought on by public and private investment. The adjacent areas along the Astoria and Long Island City shore lines present an opportunity for coordinating development with Welfare Island.

Present Facilities on the Island

Most of Welfare Island is now covered by buildings, some fully utilized, some marginally utilized, and many completely abandoned. Most of the active facilities are used by the Department of Hospitals, which is responsible for the overall administration of the island. The northern half of the island is supervised by the administrator of Bird S. Coler

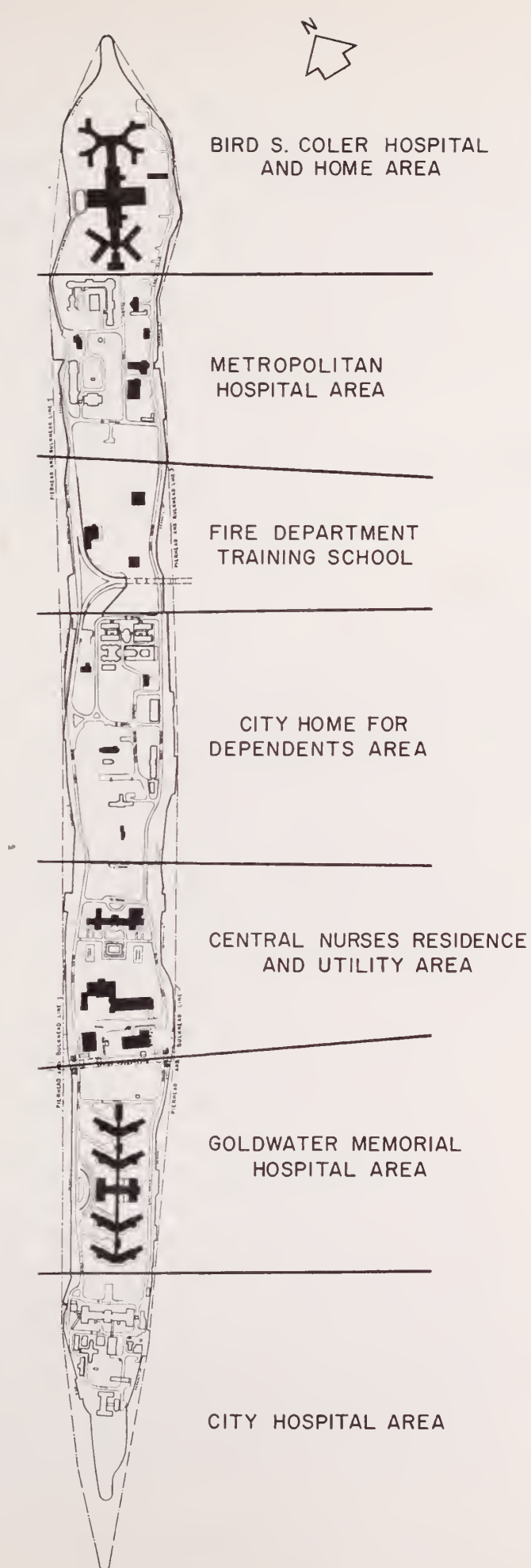


FIGURE A-1
PRINCIPAL AREAS OF
WELFARE ISLAND

Hospital and the southern by the administrator of Goldwater Hospital. In addition to the hospital activities, the Fire Department has a mask service unit and a firehouse on the island, and utilizes a 13-acre site plus abandoned buildings for training activities.

The present facilities on the island are grouped by location into seven areas, each area being designated by the dominant function or structure in the area. The churches and the synagogue are exceptions to this rule, and will be discussed separately.

Figure A-1 shows the seven areas, starting with Bird S. Coler Hospital on the northern end, through Metropolitan Hospital, the Fire Department Training School, the City Home for Dependents, the Central Nurses Residence and Utility area, the Goldwater Memorial Hospital, and ending with City Hospital on the southern tip.

Four of the seven areas contain relatively new structures that are heavily utilized. These areas include Coler Hospital, the Fire Department Training School, the Central Nurses Residence and Utility area, and Goldwater Memorial Hospital. Almost all of the structures in these areas were built between 1939 and 1955. The three remaining areas include Metropolitan Hospital, the City Home for Dependents, and the City Hospital, all largely constructed between 1835 and 1910, and abandoned between 1950 and 1955. Many of the abandoned structures, although decaying and vandalized, are interesting historically and architecturally. It is their decay, rather than the activity of the remaining areas, which most impresses the casual visitor to the island.

Following is a discussion of each of these seven areas in turn, giving something of their history, their physical facilities, and their present uses.

Bird S. Coler Hospital Area

Named for the Honorable Bird S. Coler, Commissioner of the New York City Department of Welfare from January 1918 to December 1928, Bird S. Coler Hospital and Home was designed in the late 1930s. Construction was delayed by World War II and did not start until 1949. The three to six story brick hospital was completed about 1952, except for the Special Service Wing, which was added two years later at the southern end of the hospital. When Coler was completed, the city began closing down both the Metropolitan Hospital and the City Home, described in following sections of this appendix.



Left: The Lighthouse

Below: Coler Hospital Entrance



Left: Another view of
Coler Hospital



BIRD S. COLER HOSPITAL AREA

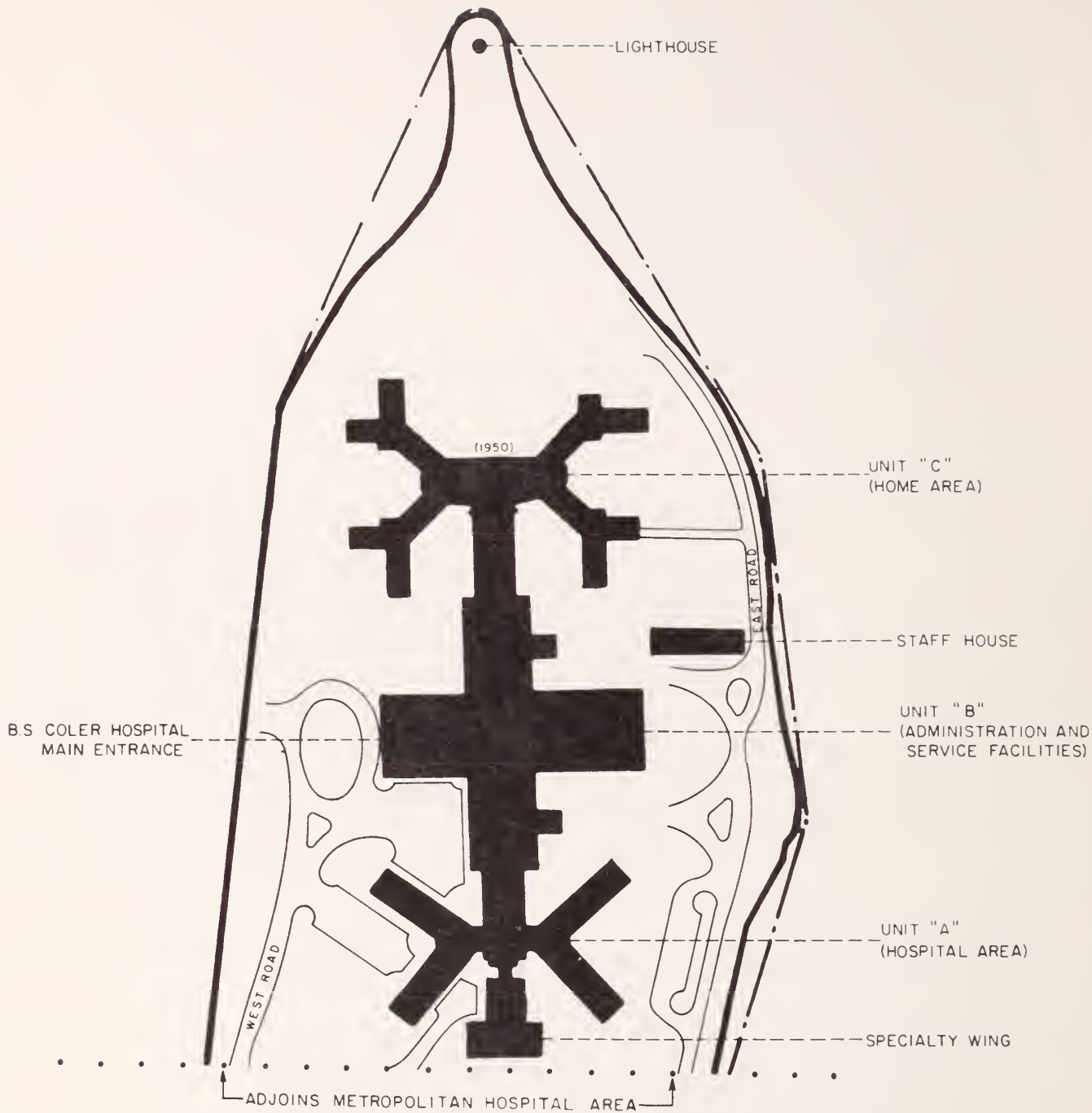
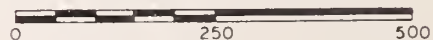


FIGURE A-2
BIRD S. COLER HOSPITAL
AND HOME AREA
WELFARE ISLAND



The northern portion of Coler is the “home” section, containing patients needing a minimum of medical care. Patients needing more care are housed in the southern, or hospital, portion. The total floor area of the hospital is 582,586 square feet, and its replacement cost was estimated in 1965 at \$56,460,000.*

The Coler Hospital area of about 23 acres also contains the Lighthouse at the northern tip of the island, and a partially utilized Staff House. A nurses’ home, Draper Hall, located just north of Coler shows on the aerial photo in this report. It was torn down in the last few years.

Functions: Bird S. Coler Hospital and Home cares for patients requiring long-term care who suffer from chronic disease. When the hospital opened in 1952, it was organized and operated as a traditional chronic care hospital, with treatment organized along the usual disease-oriented care system. In 1962, with the establishment at Coler of the New York Medical College-Center for Chronic Disease, the care program was redirected to center around the care of the individual patient, utilizing all the service units of the hospital to care for the person who has a medical problem, as opposed to solely treating the disease of the patient. A strong emphasis has been put on the rehabilitation programs, even for those patients who will never be able to achieve total self-sufficiency.

The average stay of all patients discharged in 1967 was 832 days. In addition to the basic long-term nature of chronic disease, the hospital is faced with the same nonmedical causes of long-term stays experienced by other chronic disease hospitals. These include the lack of nursing home bed space at a cost within the means of the patient and his family, the unwillingness or inability of relatives to take the patient into their homes, and the lack of community facilities, such as homemaker services, outpatient clinics, and visiting nurse programs, that would make return to the community possible.

Patients: The average daily population in 1967 was 1,478 patients. As might be expected for a hospital serving patients with chronic disease, the average patient age is high. A 1966 study disclosed that over half the patients were 65 and older at first admission and less than five per cent were 34 years old and younger.

During 1967, 557 patients were admitted to the hospital, 402 as regular admissions and 155 as readmissions. Of the 557 admissions, 363 (65 per cent) came from other city

*see Appendix B for more recent estimates.

hospitals, including 166 from Metropolitan Hospital and 130 from Harlem Hospital. Eighty-five were admitted from their own homes, 56 from voluntary hospitals, and the remaining 53 from a variety of other sources.

In 1967, three hundred and three patients died in the institution and 364 were discharged. Over two-thirds (209) of those discharged returned to their own homes, 69 were transferred to Metropolitan Hospital and other city hospitals, eleven went to voluntary hospitals, and ten to nursing homes.

Staffing: In 1952, the New York Medical College entered into an affiliation at Coler Hospital, and for ten years developed and staffed the physical medicine and rehabilitation services. In 1962, a new and expanded program for “patient-centered” treatment was established under the administration of the New York Medical College-Center for Chronic Disease.

As of March, 1968, there were a total of 2,636 persons employed at the hospital. Of this number, 268 were on the payroll of New York Medical College and 2,089 were City of New York employees. The following is a combined listing of both groups of employees:

Physicians (part time and full time)	76
Registered Professional Nurses	78
Psychologists	12
Practical Nurses and Aides	793
Therapists	59
Social Service	49
Technicians	38
Food Service	264
Engineering, Maintenance and Housekeeping	395
Volunteers	248
Administrative, Clerical and all others	345

The Lighthouse: A small granite lighthouse stands at the northern tip of Welfare Island on what was once a small separate island connected to the main island by a wooden bridge. This interval is now filled land. In the mid-1800s, a mental patient built a small fort on this outcropping, believing that it would defend Blackwell’s Island from a British invasion that

he anticipated. The authorities persuaded him, with much cajoling and a large payment of bogus money, to permit the demolition of his fort and the construction of the present lighthouse. It is believed that the patient then built the lighthouse himself and left the stone marker at its base, reading:

This is the work/ Was done by/ John McCarthy
Who built the light/ House from the bottom to the
Top all ye that do pass by may/ Pray for his soul when he dies.

Staff House: This 19,000 square-foot brick building was constructed about 1930 as a dormitory for male staff of Metropolitan Hospital. Each of the four floors contains a series of small dormitory rooms designed for single occupancy, with a large room for toilets, lavatories, and showers at the end of each hall. The condition of each floor varies from poor to good, depending on the degree to which it is presently used and maintained. The first floor now accommodates offices for the Assistant Administrator for Security and Communications, Social Workers, Security Division and Building Services Division of the hospital. The second floor is used as a dormitory for residents and interns. Some third floor rooms are used as “hotel” space for visiting doctors and for a police force and locker room. The fourth floor is unused. Plans are being developed for increased utilization of available space on the first, second and third floors to accommodate the Stores Division, Accounting, and similar business functions, which do not necessarily have to occupy premium space in the main hospital building. Part of the basement serves as the office of the district engineer for the northern part of the island.

Metropolitan Hospital Area

This 22-acre area contains the partial remains of the old Metropolitan Hospital, abandoned about 1954 following the construction of Bird S. Coler Hospital, as well as the Riverview Juvenile Center, a primate colony run by New York University Medical School for cancer research, an Episcopal Church, and a Roman Catholic Church.

History: Originally the site of an insane asylum described by Charles Dickens in his “American Notes” published in 1842, the facilities were converted to a tuberculosis and general hospital in 1894 when the Ward’s Island Homeopathic Hospital was moved to Blackwell’s Island and renamed Metropolitan Hospital. The last of the insane patients were transferred from Metropolitan Hospital to a state institution on Ward’s Island in 1902 and their former quarters converted to a separate tuberculosis unit, a novel idea at the time. Until 1915, when the most acute TB cases were transferred to Sea View Hospital, a large

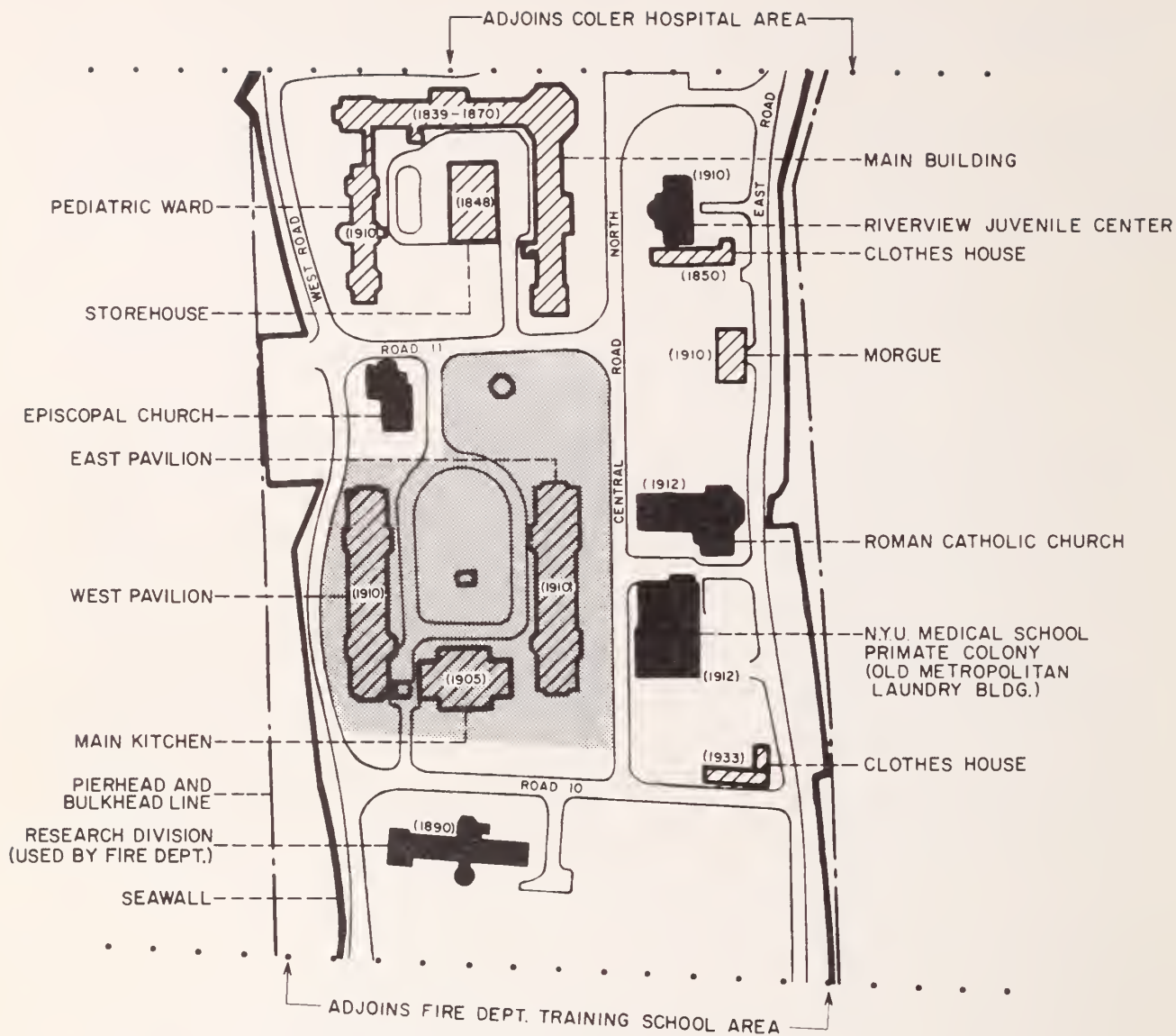
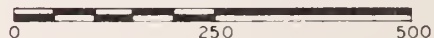


FIGURE A-3
METROPOLITAN HOSPITAL
AREA
WELFARE ISLAND





Left: Primate Colony in
former Metropolitan
Hospital Laundry

Right: Riverview Juvenile
Center in former Staff
House



Left: Metropolitan Hospital
main kitchen

METROPOLITAN HOSPITAL AREA

percentage of Metropolitan patients were TB cases. Lepers were housed at Metropolitan from 1902 until they were transferred to federal institutions in 1921.

Facilities: Figure A-3 shows the remaining buildings and the dates of their construction. Some buildings have been demolished in recent years, and all of the structures shown in the shaded area will soon be demolished to provide a construction area for the Department of Water Supply, which is building a major aqueduct from Manhattan to Queens. An access shaft will be sunk in this area of Welfare Island during the construction. When completed, the only evidence of the line's existence will be a small valve house on the western edge of the island.

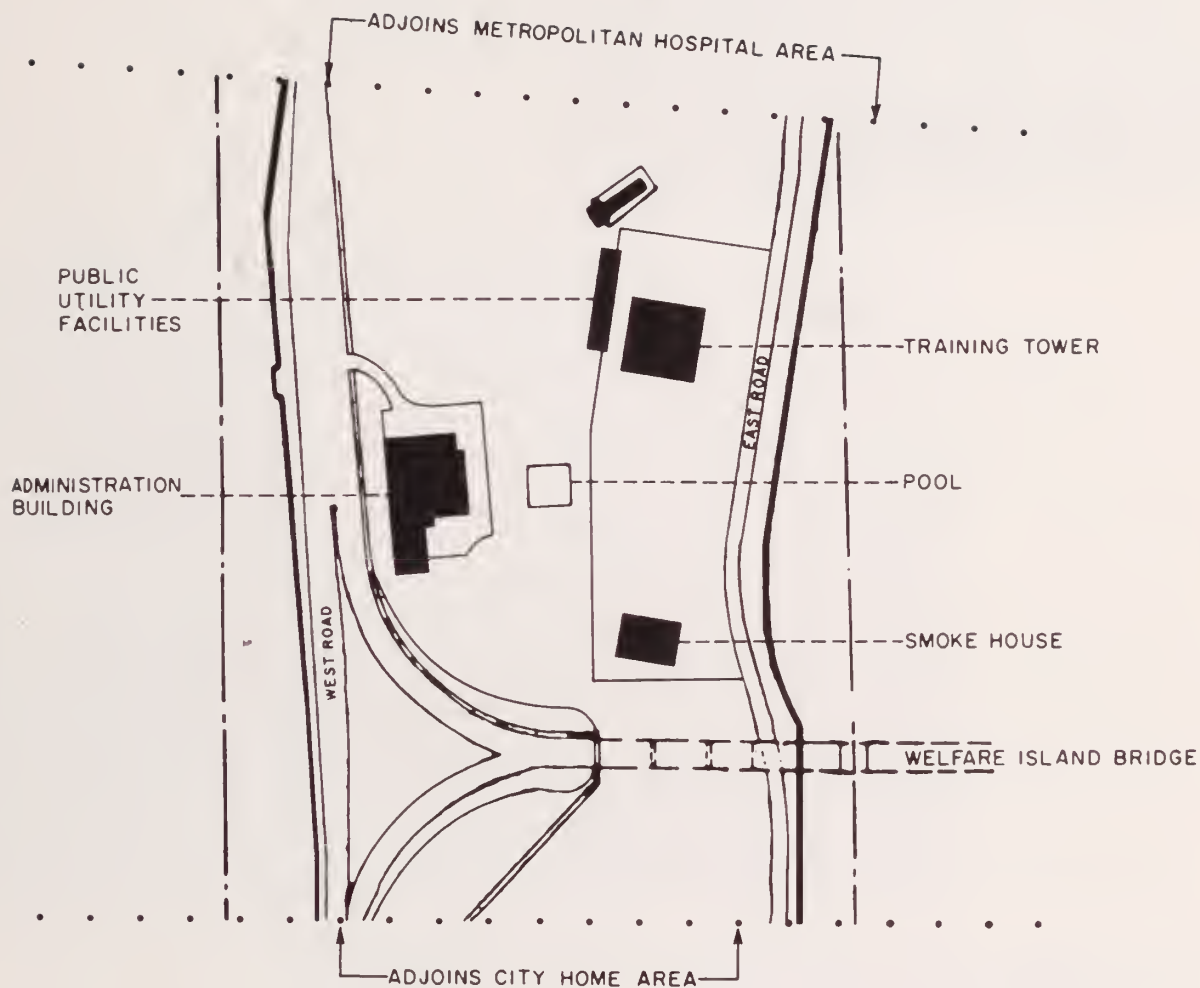
Most of the buildings in this area are abandoned granite structures with smashed windows, fallen plaster, and decaying roofs. Some of the exteriors have architectural interest and the main entrance and rotunda of the hospital contains a circular staircase mentioned by Dickens. This staircase still retains an indication of its earlier beauty.

Riverview Juvenile Center: Originally built as a staff house for Metropolitan Hospital in 1910, this granite building later served as a home for wayward girls until August, 1967. It now houses about 40 boys in temporary detention awaiting court orders that will send them to more permanent facilities or to foster homes. The boys eat in the Center, mostly from food prepared in the Coler kitchens, and are bused to nearby schools.

Primate Colony: This building was build in 1912 as a laundry and was expanded in 1933. It was originally constructed to service Metropolitan Hospital and at one time it served about 6,000 patients and employees at Metropolitan Hospital, New York City Cancer Institute, Goldwater Hospital, City Home, and City Hospital, until the new Central Laundry was constructed on Welfare Island in 1955. The southern end of the building has been demolished, and the remainder now houses a colony of rhesus monkeys and larger primates used by New York University Medical School for cancer and leukemia research.

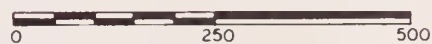
Fire Department Training School Area

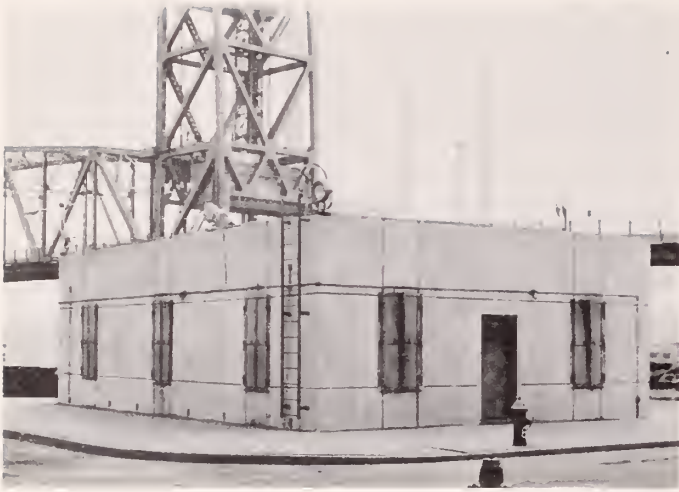
On a 13-acre site located to the south of the old Metropolitan Hospital, the New York City Fire Department Bureau of Training conducts a wide variety of basic and advanced courses for firemen. The Fire Department also uses parts of the adjacent Metropolitan Hospital and City Home areas.



■ IN USE

FIGURE A-4
FIRE DEPARTMENT
TRAINING SCHOOL AREA
WELFARE ISLAND

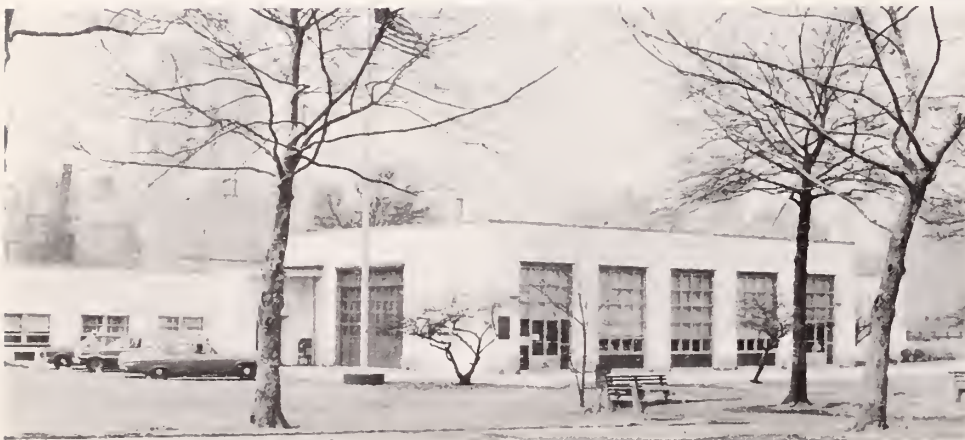




Left: Basic Training Building



Below: Training Tower



Left: Administration Building

FIRE DEPARTMENT TRAINING SCHOOL

This site had previously served as a day camp and one of the day camp shelters and some of the landscaping remains from this period. The Administration Building on the west side of the area contains offices, locker rooms, a graphics unit, an auditorium, a cafeteria, and a series of classrooms. The Training Tower in the northeastern corner of the site contains an elaborate display of sprinkler system equipment and facilities for training firemen in scaling, jumping into nets, hose laying, and other functions. The Basic Training Building in the southern corner of the site is used for training firemen in smoke and heat conditions, in the use of smoke masks, and in search and rescue operations. Mock-ups of electrical transformers and service entrance connections, manholes, water valves, and gas meters in the area are used to train firemen in handling public utility emergencies.

Most of the rest of Welfare Island, with the exception of the Coler and Goldwater Hospital areas, is used to some extent for training firemen. Chauffeur trainees practice driving pumpers and ladder trucks around the narrow and generally deserted roads of the island. The pumper trucks park adjacent to the river bank and the drivers train in pump operation, using water from the river. Both the Fire Department and the Police Department conduct training exercises in riot control in the old City Hospital area.

In the Metropolitan Hospital area, the old Research Division building, constructed in 1890, has been converted to Fire Department use for advanced training in mask use, manpower control, and team search techniques. In the City Home area, the old brick Ward A building, constructed in 1898, is used to simulate the layout and construction of tenement buildings for similar training. Behind this building, the Fire Department constructs fires of old railway timbers for practice in extinguishing fires. The City Home Pharmacy and Garage is used to house fire vehicles and for storage. In the Central Nurses Residence and Utility area, described further on in this report, the Fire Department operates a small resident firefighting unit and a Mask Service Unit.

City Home Area

This 27-acre tract consists almost entirely of the abandoned buildings of the City Home for Dependents. In addition, it contains two churches and a synagogue, the Columbia University Pathology Laboratory, some of the old ward buildings now used for Fire Department training, and the old Blackwell home.

History: The City Home originated in 1734 as the Publick Workhouse and House of Correction located on the site of the present New York City Hall. It was moved to Chambers Street in 1797 and to Bellevue Farm on 26th Street in 1815. By November 1826,

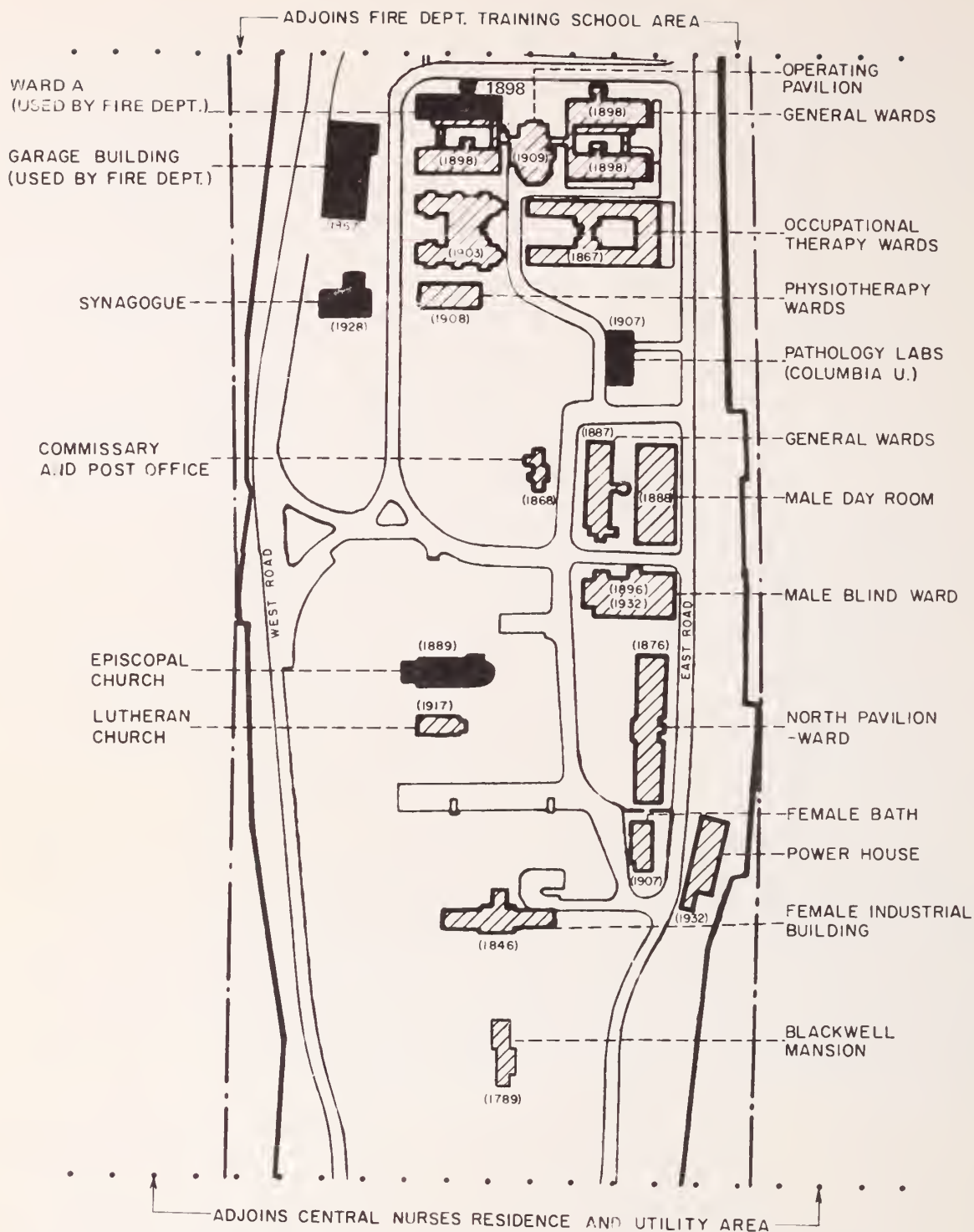
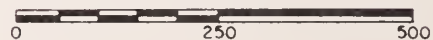


FIGURE A-5
CITY HOME FOR
DEPENDENTS AREA
WELFARE ISLAND





Left: Blackwell Mansion

Right: North Pavilion
Ward, a typical City
Home structure



Left: Columbia University
Pathology Laboratory

CITY HOME AREA

it held 1,366 inmates, 335 prisoners, 102 sick, and 82 insane patients. Shortly after the city purchased Blackwell's Island in 1828, construction of a new Almshouse was begun in the center of the island, using prison labor and stone quarried on the island. These first buildings were still in use in the early 1950s.

After the Civil War another group of buildings was constructed and used mainly for "incurable" diseases, with one set aside for an Infirmary. In 1869 two "blind asylums" were added—one for males, and one for females. At this time, the name of the Almshouse was changed to the New York City Home for the Aged and Infirm.

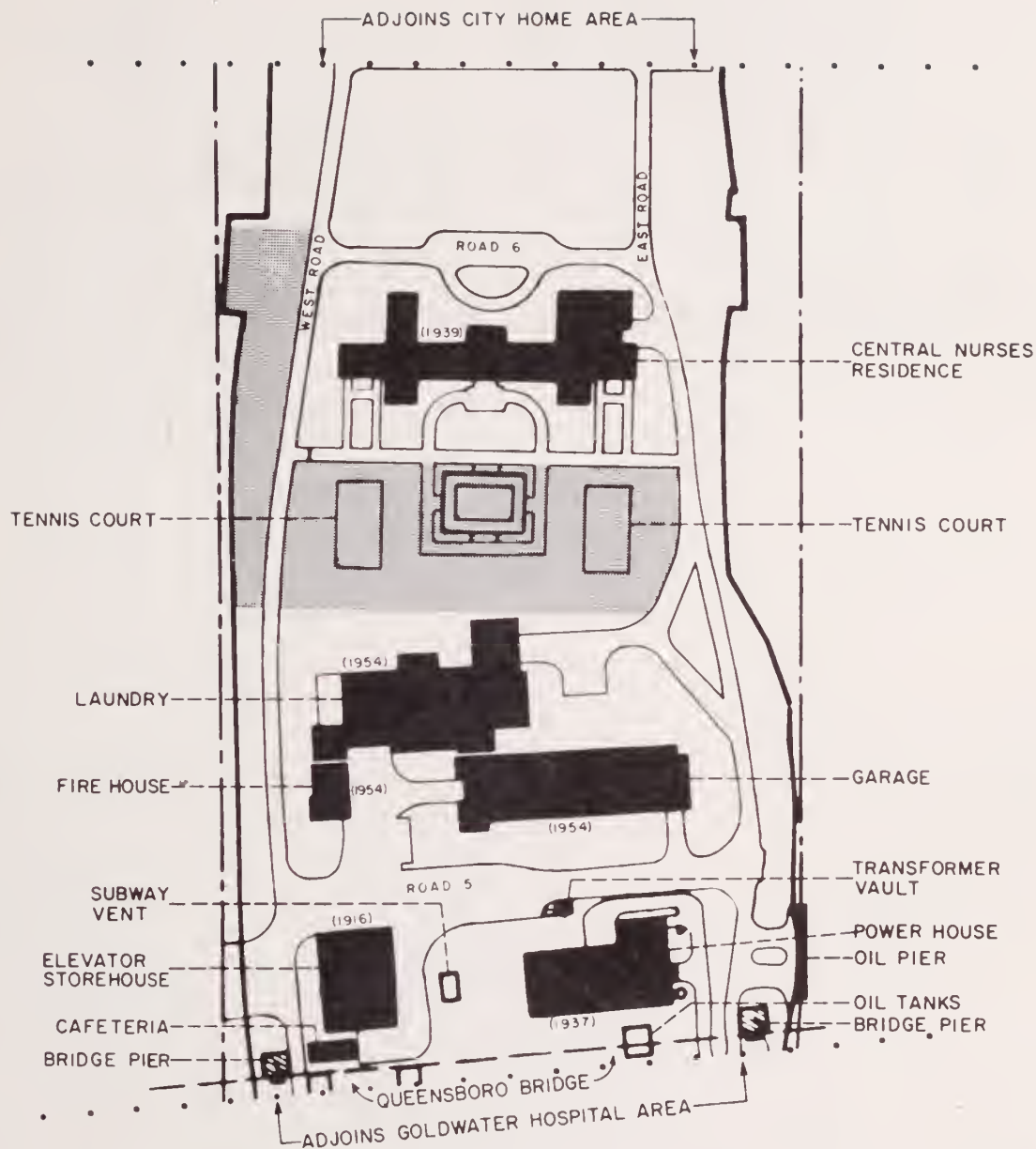
The City Home never caught up with the demand for facilities. The overcrowded condition was aggravated by the practice of sending the surplus of the workhouse to the Home, and by mixing criminals with the aged poor and insane. In 1896, with a capacity for 1,800 persons, the Home was accommodating about 3,000. In that year, patients were sleeping two and three to a bed, with hundreds more sleeping on the floor of the wards and in an outdoor shed. Some lived in tents.

No major improvements were made until 1934. Along with fundamental administrative changes, a large-scale reconstruction program was initiated at that time. Fire hazards were eliminated where possible, and fireproofing done elsewhere; elevators were installed; sanitation improved; recreational facilities expanded; and increased occupational therapy instituted. In 1952, with the opening of Bird S. Coler Hospital, the closing down of the City Home began. Bedridden patients were transferred to Coler, and ambulatory patients to the Farm Colony of Staten Island.

Blackwell Mansion: The Blackwell home was originally built about 1789. It served as a staff house for resident physicians until 1934 and afterwards as the medical superintendent's residence. It is now abandoned and badly damaged by rot and vandals. The Landmarks Preservation Commission considers the Blackwell home as an important example of an early New York farm house, but estimated that more than \$75,000 would be required to restore the structure alone.

Central Nurses Residence and Utility Area

This 22-acre site, lying just north of the Queensboro Bridge, contains a number of supporting facilities. These include the Central Nurses Residence, the Power Plant, the Central Laundry, the Garage, the Mask Service Unit and Firehouse, and the Elevator and Storehouse building.



- IN USE
- AREA TO BE CLEARED FOR TRANSIT AUTHORITY CONSTRUCTION ACTIVITIES

FIGURE A-6
CENTRAL NURSES RESIDENCE
AND UTILITY AREA
WELFARE ISLAND





Above: Power Plant (left) and Firehouse (right)

Below: North Side of Central Nurses Residence



CENTRAL NURSES RESIDENCE AND UTILITY AREA

Central Nurses Residence: Completed in 1939, this 240,735 square foot brick building provided 550 dormitory rooms for nurses serving in municipal hospitals both on and off Welfare Island. A few dormitory rooms have been converted to apartments. The present population of nurses and trainees uses only half the rooms. A larger percentage of nurses today tend either to be married, or to prefer teaming up to rent apartments. The access problem is a factor, especially for nurses working in Manhattan hospitals.

Although some voluntary hospitals have asked about using part of the Residence for their nurses, the city has apparently preferred to reserve it for city employees, partly as a bonus to offset low wages.

Behind the Residence is a tennis court area that will be taken over for the next few years by Transit Authority construction contractors. An access shaft will be sunk to the 63rd Street tunnel for ventilation and removal of excavated material. If a subway station is installed on the island, it will be in this location.

Power Plant: This plant was constructed in 1936-37 to supply steam to all of the island. The original four Springfield straight-tube boilers are rated at 600 bhp each and were supplemented in 1951 by four Combustion Engineering bent-tube boilers rated at 700 bhp each. Estimated maximum output (on a day with an outside temperature of 5° F.) was about 140,000 pounds of steam per hour. The plant consumes between four and five million gallons of No. 6 fuel oil per year, which is delivered by barge to a fuel dock adjacent to the plant. Fuel consumption in a midwinter month averages about twice that of a midsummer month, indicating that maximum heating loads are about equal to maximum loads of process steam for the laundry (which takes up to 30,000 pounds per hour with a widely fluctuating load), sterilizing units, and other miscellaneous processing loads.

Both Goldwater and Coler Hospitals are heated by hot water radiators. The Goldwater system is supplied from a converter located at the power plant. Coler's converter is located at the hospital itself and is fed by a 1-1/2 mile steam line running in a tunnel up the east side of the island. Some buildings, such as the Elevator and Storehouse Building, are heated by steam radiators.

The Central Laundry is a 48,500 square foot brick structure constructed in 1954. It now serves Coler Hospital, Goldwater Hospital, and the Central Nurses Residence on Welfare Island, plus eight other municipal hospitals in the Bronx and Manhattan. Another central laundry in Brooklyn serves municipal hospitals in Brooklyn, Queens, and Staten Island. A few hospitals, such as Bronx Municipal and Bellevue, have their own laundries. The Central



Left: Queensboro Bridge showing vehicular connection to Elevator Building at tenth floor and pedestrian walkway under bridge to ninth floor

Right: Another view of the Elevator and Storehouse Building



ELEVATOR AND STOREHOUSE BUILDING

Laundry on Welfare Island has 242 employees and processes 1.5 to 1.7 million pounds of laundry per month, working on a one shift, six-day week. In the near future, an expected additional load may cause some two-shift operation.

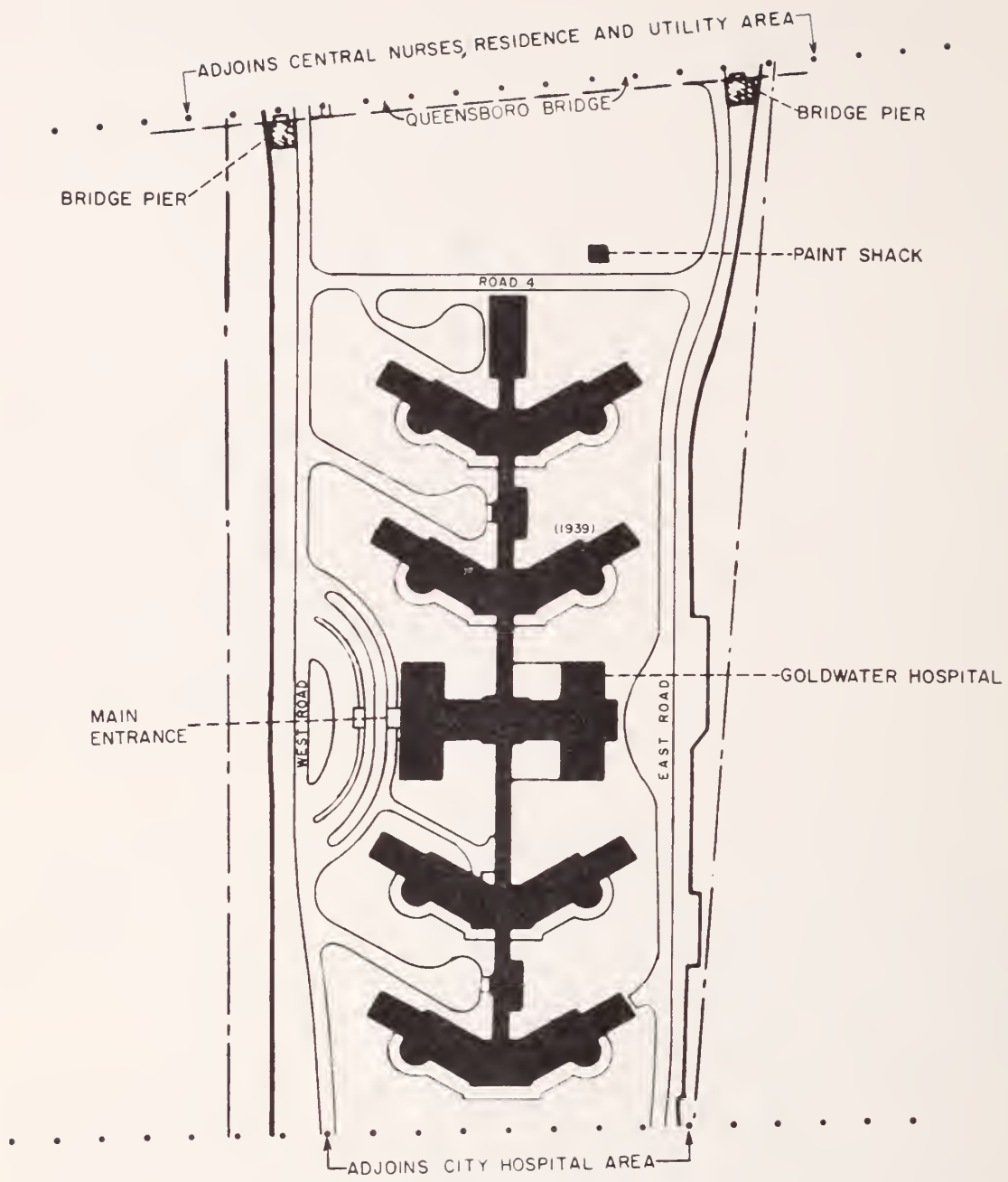
Garage: This 34,840 square foot brick garage is one of 17 garages serving the Department of Hospitals throughout the city. It has 49 employees and houses about 55 vehicles, including ambulances, station wagons, trucks, tractors, and buses. Preventative maintenance is done here, but no major repairs are undertaken.

Mask Service Unit and Firehouse: The Mask Service Unit, located in a 6,180 square foot brick building constructed in 1954, is responsible for the Fire Department's 1900 air masks, 81 resuscitators, 103 radiological monitoring stations, and a number of explosion meters and other measuring devices. This Unit services and charges all compressed gas cylinders used by the Department (including air cylinders for air masks) except for acetylene cylinders, which are charged elsewhere. The Mask Service Unit has a staff of 27 firemen.

Located in the same building is the Division of Safety Responding Unit, a firefighting unit which provides a rapid response to firefighting needs on the island until larger units can arrive from stations in Queens.

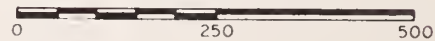
Elevator and Storehouse Building: This unusual 113,350 square foot brick structure was completed in 1918 to provide elevator access to the island from the lower level of the Queensboro Bridge. The tenth floor of the Elevator Building contains space once used for ambulances and other vehicles to park or to load into one of the four vehicular elevators and descent to the island. The top floor also contained Reception Hospital, a first-aid station with a small room for minor operations and two beds for emergency cases.

Before construction of the Elevator Building, patients were brought to the island by boat, either from the original Reception Hospital on the pier at East 26th Street, or from another built in 1911 at the foot of East 70th Street. When the Elevator Building opened, both the pier buildings and the boat service were closed down. When the Welfare Island Bridge was completed in 1955, the vehicular elevators stopped taking traffic from the bridge, and now serve the storehouse from the loading dock at ground level. Although the Elevator Building no longer takes vehicles from the bridge, its pedestrian elevators still carry passengers between the bridge and the island from 7:30 A.M. to 6 P.M., five days a week.



■ IN USE

FIGURE A-7
GOLDWATER MEMORIAL
HOSPITAL AREA
WELFARE ISLAND



Floors one through nine contain storage of textile stocks, furniture, Civil Defense supplies, and printing stocks, as well as central shops for carpentry, printing, sheet metal work, hardware repair, X-ray equipment services, and a textile factory employing 40 seamstresses and 4 cutters. These functions serve city hospitals throughout the five boroughs.

Goldwater Hospital Area

Goldwater Memorial Hospital, like Bird S. Coler Hospital, treats the chronically ill and persons requiring long-term rehabilitation services. It is affiliated with New York University Medical School.

History: The site of Goldwater Hospital was formerly occupied by the infamous City Prison, described in the section on History of the Island. In 1928, a plan was drawn to transfer Welfare Island's prisoners to a new institution to be built on Riker's Island. In June, 1934, Mayor LaGuardia announced that he had instructed Robert Moses to turn at least part of the island into a park. In October, Moses made public a scheme to locate a sports field in the area of City Prison. However, the Commissioner of Hospitals, Dr. S. S. Goldwater, supporting arguments put forth by the medical profession in New York, opposed the park project and announced a plan for (1) centralizing all chronically ill patients in existing buildings on the island, and (2) constructing new, modern facilities for their treatment. In March, 1935, the City Planning Commission supported the Goldwater plan. Evacuation of City Prison finally began in the summer of 1935, the prison was shut in February, 1936, and demolition was begun shortly thereafter by WPA workers. The "Welfare Hospital for Chronic Diseases," later renamed Goldwater Memorial Hospital, opened in the summer of 1939. It was the first city institution specifically designed for chronic disease treatment, and was widely heralded as a pioneering institution.

Facilities: The hospital building occupies most of a 21-acre area. The remainder, lying between the northern end of the hospital and the Queensboro Bridge, is taken up by a parking lot, which is subject to paint spatter when the bridge is painted every six years or so.

The hospital buildings provide about 615,000 square feet of floor space. The replacement cost was estimated in 1965 at \$53,765,000.* The basic structure and roof are in good condition. The exterior brick walls are dark with dirt, which could probably be removed by steam cleaning. The somewhat gloomy exterior appearance is reinforced by the irregular splotches of verdigris on the copper screens.

*See Appendix B for more recent estimates.



Above: Goldwater Hospital Entrance with Queensboro Bridge

Below: Another View of Goldwater Hospital



GOLDWATER MEMORIAL HOSPITAL

Inside, the plumbing, electrical, and heating systems are adequate, although some increases in the electrical system, including increasing lighting levels, would be desirable. Plumbing fixtures, worn by almost 30 years of cleaning, are scheduled to be replaced in a renovation program scheduled for the near future. This work will also include painting and work on utility systems.

Power is supplied by Con Edison. An existing diesel emergency generator is now being supplemented by addition of a new generator. These generators provide for essential loads, such as operating suites and respirators. The building is heated by hot water radiators, fed from the power plant. The building is not centrally air conditioned. Raw untreated sewage is dumped directly into the East River.

The city has advertised for bids on construction of a new activities wing to be added to the southern end of the present building. Its estimated cost will be \$2.6 million. This wing will contain additional occupational and physical therapy facilities, an auditorium, three chapels, a canteen, a library, and chaplains' apartments.

Patients: Table A-1 gives an indication of the type and stability of the patient population.

Table A-1
Goldwater Hospital Patient Population*

	Total	Physical Medicine and Rehabilitation	Chronic Diseases	Nursing Home
Patients in the hospital on 1/1/67	983	147	411	425
Admissions in 1967	654	229	390	35
Discharges in 1967	719	185	435	99
- transfer to other institutions	285	60	174	51
- deaths	185	9	153	23
- other discharges	249	116	108	25
Patients in the hospital on 12/31/67	888	118	372	398

*Adapted from the Goldwater Hospital Joint Statistical Report for 1967.

Since Goldwater is a specialized institution, it handles patients from throughout the city and occasionally from outside the city. For example, a German stricken with polio in Mexico spent a few days in Goldwater's respirators gathering strength prior to his return to Europe.

Being a city hospital, many of the patients are indigent, particularly in the "nursing home" sections of the hospital. The degree of affliction varies widely, from those mortally ill to those who could live outside the hospital if suitable city-supported residential facilities were available.

For the large majority of the patients, the hospital is their home. For some, it is the only home they will have for the rest of their lives. This situation makes the need for extensive patient activities and an attractive environment even greater than for general hospitals serving a more transient population.

Staffing: In October, 1965, the City of New York entered into a three year contract with New York University Medical Center under which the Medical Center entered into an affiliation with the Goldwater Hospital for the supervision of professional care and other specific assignments. Since the affiliation, 57 physicians and 102 paramedical personnel were added to the staff at Goldwater Hospital. The number of visiting physicians has increased, while the total number of physicians decreased. This is mainly due to a policy decision not to retain resident physicians after June 30, 1966 who had not passed the Educational Committee Foreign Medical Graduate examination.

Goldwater Memorial Hospital, in common with most other municipal institutions, suffers from a shortage of registered professional nurses. As a result, a major portion of patient care is delegated to practical nurses and nurses' aides.

The hospital also has difficulty in filling positions in its Division of Rehabilitation Medicine—especially vocational counselors and occupational therapists. To meet these needs the hospital initiated formal arrangements with paramedical schools in the area of physical therapy.

Table A-2 lists the employees of Goldwater Hospital by service as of March 20, 1968:

Table A-2

Goldwater Hospital Employees

	Full-time	Part-time
Administrative and General	49	
Operation and Maintenance of Plant	75	
Housekeeping	160	1
Laundry and Sewing Room	29	
Dietary	284	
Clinicians and Medical Chiefs, including Dentistry	32	52
Interns and Residents	34	
Registered Nurses	79	2
Licensed Practical Nurses	231	
Orderlies and Aides, Attendants	555	
Social Service	22	
Medical Records	4	
Pharmacy	9	
Central Supply	20	
Operating and Recovery Rooms	3	
Radiology	11	7
Laboratory	31	
Electrocardiograph	1	2
Physical therapy	19	1
Oxygen therapy and inhalation therapy	5	
Home Care Department	4	3
Blood Bank	7	2
Emergency Service	14	
All other employees	218	8
	1,896	78

City Hospital Area

The buildings in this 11-acre area are completely abandoned and unused, except for some minor use for hospital storage, and as a training area for police and firemen. The area south of the hospital buildings has been extended somewhat by fill operations, and will probably be extended further when the rapid transit and water tunnels are constructed.

History: City Hospital is the second oldest of the hospitals and institutions conducted by the City of New York. In 1837, a small frame building was placed at the extreme south end of the island.

From 1857 until 1866, it was known as "Island Hospital," and in 1866 the name was changed to "Charity Hospital." Later, because of a real or fancied objection on the part of the patients, this name was again changed in 1892 to "City Hospital."

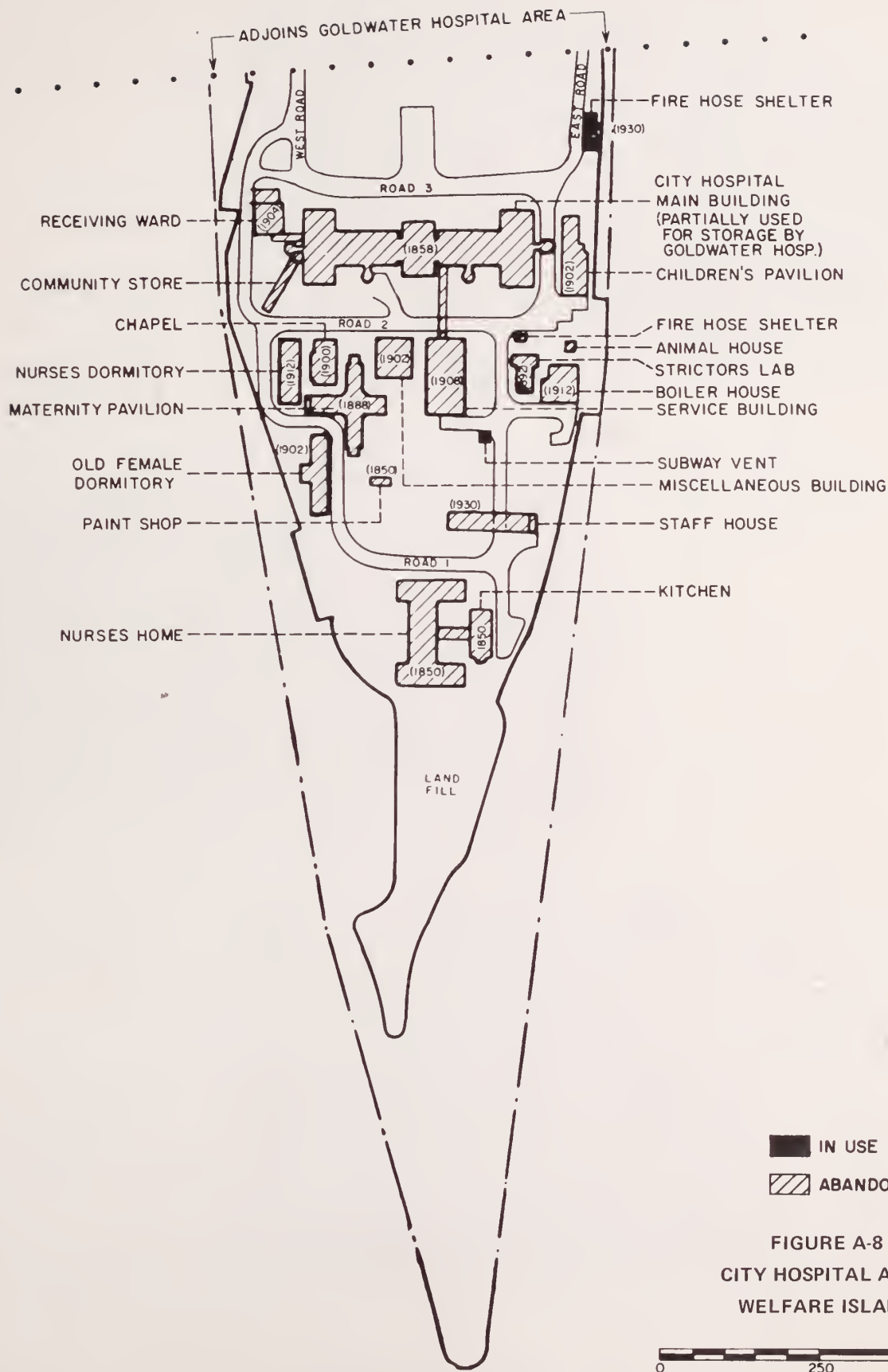
On the morning of Saturday, February 13th, 1858, in the midst of a freezing blizzard, the hospital was totally destroyed by fire due to the faulty construction of buildings. In the following month, the erection of a new hospital was started. The stone was quarried on the island by inmates of the penitentiary and the rough work of construction was also performed by convicts.

On July 22, 1858, the cornerstone of the present hospital was laid and in 1861 the new hospital was in full operation.

On October 1, 1875, the New York Training School for Nurses was opened with twenty pupils. For many years subsequently, the Training School of Nurses not only provided the nursing care for the patients at City Hospital, but also for Bellevue and its dependents, including Fordham, Harlem and Gouverneur Hospitals. In 1906, the nursing service to Fordham and Harlem was discontinued and in 1910 to Gouverneur Hospital. The Training School for Nurses was discontinued in 1934.

In 1909, the bed capacity was 742. The bed capacity was raised until it reached 1,060 and, in 1936, reduced to 1,030. In July, 1939, approximately 200 patients were transferred to the new Goldwater Memorial Hospital and, pending renovation of certain divisions, the census was reduced to 880.

Over the years, continued additions and modifications were made. The map shows the dates on which each building was constructed. Frequent alterations were made in the older





Left: Main Building

Right: Kitchen of former Nurses Home



Left: Service Building showing emergency exit from 53rd Street subway tunnel in foreground

CITY HOSPITAL AREA

buildings as the nature of medical care changed. As late as 1950, major modifications were being made, including new concrete floors, new x-ray department construction, and similar items.

City Hospital was finally closed in 1957, and the majority of its patients transferred to Elmhurst Hospital.

Religious Structures

In addition to the chapels inside Coler and Goldwater Hospitals, several separate religious structures dot the island. Those few that are still used serve mainly as living quarters for hospital chaplains. Many of these buildings belong to the religious group concerned. Any plan for redevelopment of the island may wish to take a special look at the potential future of these links with the past.

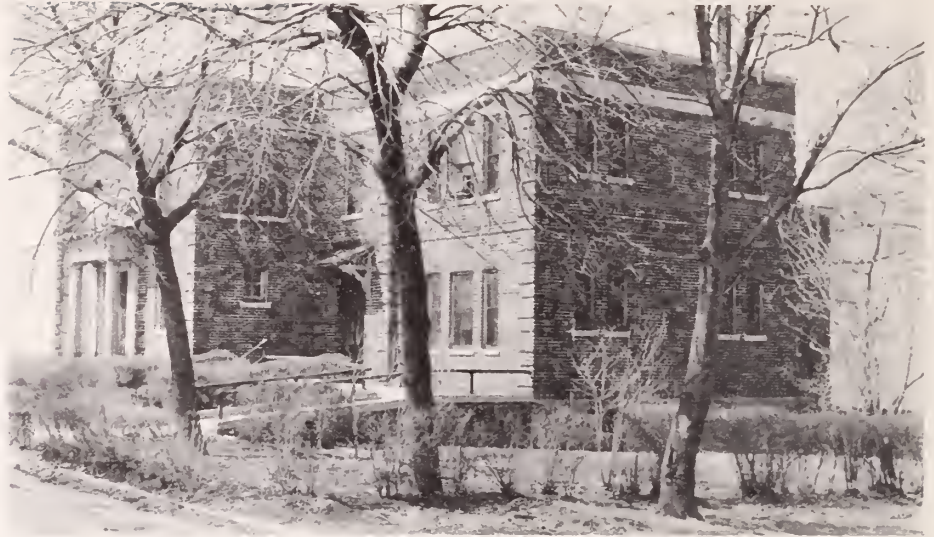
The sole remaining Roman Catholic church on Welfare Island is the *Church of the Sacred Heart*, formerly known as Saint Mary's. This 1800-square foot granite structure was built in 1912 by the Archdiocese of New York on land loaned to it by the city. It served as the Catholic chapel for the old Metropolitan Hospital until the hospital closed about 1954. Today, it serves mainly as the residence for the senior Catholic chaplain at Coler Hospital and three other priests who serve as chaplains at the new Metropolitan Hospital in Manhattan. One public mass is held in the church each week, attended by a few nurses from the Central Nurses Residence, policemen who work on the island, and boys from the nearby Riverview Juvenile Center. The building, located on the western side of the Metropolitan Hospital area, is in generally good condition.

Another Catholic church, *Our Lady Confidant of the Sick*, located in the City Home area, was demolished about two years ago.

On the opposite side of the island from the Sacred Heart Church is the *Chapel of the Holy Spirit*, which is administered by the Episcopal Mission Society. According to the Society, the building itself belongs to the city. This granite 6000-square foot church, built in 1923, served as the Protestant chapel for the old Metropolitan Hospital, and is in generally good condition. It is no longer used for religious services, serving only as the residence of a Protestant chaplain from the new Metropolitan Hospital.

In the City Home area to the south are three religious structures. The first is a small brick 5000-square foot synagogue, which at one time served as the Jewish place of worship

Right: The Synagogue



Left: Church of the Sacred Heart



Right: Back view of the Church of the Sacred Heart showing priests' residence



SYNAGOGUE AND CATHOLIC CHURCH



Left: Church of the Good Samaritan

Right: Chapel of the Good Shepherd



Left: Chapel of the Holy Spirit

PROTESTANT CHURCHES

on the island. Today, the residence part of the building is used by the Jewish chaplain of Coler Hospital as his home. Its history is unclear, but it appears to have been built by a Jewish organization in 1928 and subsequently sold to the city for the nominal sum of one dollar. This structure is now in very poor condition.

The second church in the City Home area, and perhaps one of the most interesting buildings on the island, is the *Chapel of the Good Shepherd*, built in 1889. It is owned by the Episcopal Mission Society and is no longer used for services. A seven-room residence in the building is used by a Protestant chaplain from Coler Hospital and his family. The Landmarks Preservation Commission has proposed that this church be declared a landmark and it is in line for designation as such following a hearing which was held on December 27, 1967. Designed by Frederick Clark Withers, a British architect who also designed the Jefferson Market Courthouse in Manhattan (formerly declared a landmark and now a library), the church served for many years as the main Protestant place of worship on the island. The physical condition of this brick structure appears to be poor, but apparently it can be preserved.

Next to the above church is the *Church of the Good Samaritan*, which is owned by the Association for the Relief of Indigent Germans in the City and State Institutions of New York. The Society holds a 99-year lease on the city-owned land, extending from 1917 when the church was built by the Lutheran Inner Mission Society, the former owners. Today, the small granite church is used only occasionally and the building is in poor physical condition.

Within the City Hospital area is a small chapel, built in 1900, which once served both the Catholic and Protestant residents of the Hospital. Like the buildings surrounding it, the chapel is abandoned and filled with rubble.

Recent Development Proposals

Throughout the years, hundreds of official and unofficial proposals have been made for the better utilization of Welfare Island. Some of these ideas have been acted upon, as changing uses of the island testify. Many others failed for lack of sufficient merit, appropriate timing, sustained advocacy, or adequate financing. This section outlines most of the proposals made publicly since the 1950s, when the closing of three major institutions on the island relegated half of the land to disuse.

These proposals are discussed below under the heading of housing, recreation, multiple-use development, institutions, research and education, and other proposals.

Housing

In 1959, Francis J. Kleban, president of Kleban Realty & Construction Corporation, offered to buy the land south of the Queensboro Bridge and construct an apartment complex consisting of four 31-story buildings with 2,400 middle-income family units. He proposed to undertake the work without the aid of public grants, loans or tax abatements. The city did not accept the proposal and announced subsequently that the island would not be sold or leased to private interests "except in cases of overriding necessity." Mr. Kleban continued his interest in development of the island over the years and restated that interest in a letter to Mayor Lindsay in July, 1967.

In 1961, Frederick W. Richmond, financier and industrialist, Victor Gruen, architect and city planner, and Roger L. Stevens, real estate developer, proposed construction of a self-contained "East Island Community" to include schools, libraries, shopping facilities, professional offices and recreational facilities, and housing for 70,000 middle-income residents in 20,000 apartments. Eight 50-story apartment towers and a series of serpentine apartment structures varying in height from eight to thirty stories would be built on an immense concrete platform about 22 feet above ground level and covering the entire island, except for the area occupied by the Bird S. Coler Hospital. All other existing buildings and facilities would be removed. The schools, commercial and service facilities, pedestrian concourses and an electrical transportation system would be under the platform. Private automobiles would be banned from the island and parking facilities would be provided on the adjacent Queens shore.

This proposal was aimed at stemming the movement of middle-income families to the suburbs by giving them an attractive alternative close to their work. Financing was proposed under various federal, state and city programs.

Later in 1961, the city declared the proposal to be infeasible, primarily on the grounds that transportation facilities serving Welfare Island would not be adequate for the large number of people who would be traveling daily to and from the island. Other opposition to the Richmond-Gruen proposal arose among those who preferred to see the island used for recreational facilities.

After the rejection of their 1961 proposal, Mr. Richmond and his associates retained a continuing interest in the idea of a "new town" for Welfare Island. In 1965, when the Transit Authority decided to construct the new 63rd Street East River tunnel with provision for a station on Welfare Island, the idea received added impetus. In that same year, the

Frederick W. Richmond Foundation was instrumental in forming the East Island Development Corporation, a non-profit corporation designed to lease the island from the city for development purposes. (In July 1967, the corporate name was changed from "Development" to "Planning.") Discussions were held with city officials in 1965, but the election year atmosphere precluded any substantive progress. Serious discussion with the new administration, beginning in the summer of 1966, led to an agreement with the city in 1967 whereby EIPC would undertake various technical studies and would attempt to secure contributions from foundations and corporations to fund planning and preliminary development activities. Also discussed was a proposed design competition for the island to be run in conjunction with two major architectural publications. The competition has not materialized.

In the summer of 1967, it became apparent that the fund raising program would not be successful without the participation of Mayor Lindsay. At the suggestion of EIPC, a meeting was held at Gracie Mansion where the Mayor presented the goals for development of the island to a group of business and civic leaders. A brochure entitled *A Development Program for Welfare Island* was prepared for the meeting by EIPC, after discussions with the Housing and Development Administration. The proposed program included transportation facilities, pedestrian access to the island, public open spaces, amusement and recreation facilities, and a new residential community. In February 1968, a comprehensive report on the current status of the EIPC program was presented to the Housing and Development Administration.

In 1961, Professor Percival Goodman of Columbia University proposed that the city should give Welfare Island to the United Nations to house its 20,000 employees, delegation members and their families. His students developed a plan that included a 1,000 room hotel, clusters of apartment houses, office space, shops, schools, and recreational and cultural facilities, providing a self-contained U.N. community that could be isolated from the rest of the city "in times of extreme world tension." The U.N. did not have the required funds and the proposal never received active consideration.

Recreational Facilities

In 1929, the Regional Plan Association proposed that 70 to 75 acres in the center of Welfare Island be developed as a park, including year-round athletic facilities for up to 3,000 boys and 2,500 girls and women and a dancing pavilion. This proposal was part of an overall plan for the city's development that envisaged the major East River islands as ideal locations for expanding the city's park facilities.

In 1961, the New York City Chapter of the American Institute of Architects, in response to the Richmond-Gruen housing proposal, opposed massive housing development on the island, stating "The island represents the final and foremost single opportunity to develop greatly needed open space and recreation sites for those living in the central area of New York City." They noted that the National Recreation Association had established 10 acres of local recreation area per 1,000 population as a desirable minimum standard, but that Manhattan had only 1.5 acres per 1,000. In Queens, although there were 7.8 acres per 1,000, most parks were far from the East River.

In 1965, the Urban Design Committee of the New York Chapter of the AIA reaffirmed the above position and recommended that park development on the island should include baseball diamonds, handball, and tennis courts, bicycling and walking paths, pools and rinks, an amphitheater, and refreshment spots, creating a "Tivoli Gardens" atmosphere. They recommended development of presently available areas on the island and gradual replacement of existing facilities on the island with parkland. They estimated that purchase of land equivalent to that available on Welfare Island for park development might cost \$100,000,000.

In a New York Herald Tribune article of May 1965, there appeared a proposal for creating on the island a Tivoli Gardens park which had been prepared for the newspaper by Zion and Breen, site planners and landscape architects. Included in the plan were an aquarium, playground and amusement areas for small children, restaurants, swimming pool, bicycle and roller skating paths, and a concert hall and/or small theater, all in an informal country-park setting. A system of water buses was proposed shuttling to and from residential areas on either shore. This "Tivoli" concept has been retained by Zion and Breen in a plan, described further below, submitted in 1968.

In 1965, the New York Board of Trade, through its Architectural Advisory Council, stated that it would be "deplorable to take a green island as it is now and make another sea of concrete," and proposed instead that the island be used for a park.

In 1967, the State Parks Commission for the City of New York proposed Welfare Island as one of six state park sites within the city. Development of 76 acres of the island would include a large indoor-outdoor swimming pool at the southern end, with a rollback roof that would be a bandshell in the summer, a picnic area, a terraced area for ice-skating in winter and dancing in summer, and an older citizens' area at the northern end. This proposal is being held in abeyance until the city prepares a land use plan for the island.

In 1967, the New York Times proposed that the island be turned into “a unique embellishment that would become world famous—an East River park of great utility and beauty,” as opposed to a site for new housing development. They stated that “the cause of slum clearance is not helped by sacrificing vital open space to new housing.”

In 1968, the Committee for Tivoli Park in New York presented the most recent proposal for a park on Welfare Island. The park would include reconstruction of the Temple of Dendur (which the Metropolitan Museum of Art has obtained for the city) on the southern tip, a museum of Egyptian art, open-air theaters, a showboat, cinemas, band stands, light operas, concerts, water pageants, a marineland, floating swimming pools, bicycle course, children’s play gardens, flower displays, promenades, jitneys, water buses, picnic groves, international restaurants, and the Blackwell mansion. The design was prepared for the Committee by Zion and Breen, the firm which did the Tivoli design for the New York Herald Tribune article described above.

The Committee stated that the park “would stimulate the construction of significant housing in Queens and thereby become a vital force in the life of our entire city.”

Multiple-Use Development

In 1965, the Department of City Planning prepared a report entitled *A Study of Welfare Island*, which analyzed those city-wide needs which could best be served on Welfare Island, bearing in mind the relationship between the island and the city as a whole and the limitations imposed by the island’s size, shape, location and access. They proposed multiple-use development of the island, including expansion of geriatric facilities at Bird S. Coler Hospital and diversification of the services available there to the aged; creation of an intensive recreational complex between the Welfare Island Bridge and the Central Nurses Residence; restoration of Blackwell’s Mansion as a museum; cultivation of a formal garden surrounding the mansion; development of approximately 1,200 middle-income residential units to house hospital staff and possibly United Nations staff members; reservation of sections of the island for expansion of Goldwater Memorial Hospital and for addition to the city’s “stockpile of land” for future municipal needs; and construction of a Welfare Island station on the new 63rd Street subway tunnel. No subsequent action has resulted since the publication of this preliminary study.

The Hudson Institute has presented to the city a proposal for coordinating development of the island and the adjacent area of Long Island City. Included on the island and mainland would be housing for 250,000 persons and an extensive park system, with the

island connected to Queens by a broad pedestrian bridge fashioned after the Ponte Vecchio in Florence, Italy. The whole project is estimated to cost up to \$3 billion.

Institutional Facilities

In addition to the Department of City Planning report of 1965, others have mentioned retention and expansion of all or part of the existing hospital facilities on the island. Included have been suggestions that residential and rehabilitation facilities be provided for those patients who do not require the intensive care which the hospitals can provide, but for whom there is no other place to go. Portions of the island could be used for these facilities, thereby releasing valuable space within the hospitals for treatment of those requiring more care. Recently, a group of Bird S. Coler Hospital patients proposed construction of apartment-type housing accommodations for the less seriously handicapped among them, with related workshops providing opportunities for gainful employment. They expressed the wish that Welfare Island could become “a bridge” to “new life, new opportunities for health, work, learning and service.”

Research and Education

The Economic Development Council of New York City, Inc. has proposed that Welfare Island be developed as a science and technology center that would draw upon and expand the existing applied and theoretical research activities of the area and serve to draw technologically-based industry into the City.

Two proposals for educational uses have been advanced to the Committee by private citizens. The first is for construction of an “Educational Park” which would combine an information and research center with schools extending from elementary through college, utilizing advanced teaching devices and procedures.

The second private proposal is for a resident university to be built on the island to help delinquent youths and young drug addicts.

Other Proposals

In 1959, the Department of Prisons suggested that the island be turned into a penal colony. The idea received little support.

In 1964, former Fire Commissioner Martin Scott suggested that the Fire Department's training units on Welfare Island be expanded into an accredited college for firemen.

In 1965, it was proposed that a 17-acre site at the southern end of Welfare Island be used for the location of the United Nations International School, with funding to be provided by the Ford Foundation. The site was rejected, in major part because of the inaccessibility of the island from Manhattan.

In 1967, George T. Delacorte, publisher and head of Make New York Beautiful, Inc., proposed to construct a 300-foot fountain at the south end of Welfare Island or on a rock below the southern tip. The fountain would be patterned after the Jet d'Eau, a water display in Geneva, Switzerland, and would be visible to motorists along the East Side Drive and to the pedestrians and residents of that area. It is understood that the equipment for the fountain is now being fabricated.

In 1967, the Museum of Modern Art in New York presented an exhibition, *The New City, Architecture and Urban Renewal*. The exhibition posed the question of "How can we develop large segments of new land out of relatively under-used, or mis-used, peripheral areas, so that they alter the character of existing neighborhoods by providing new amenities?" A site plan was developed by three architects from Massachusetts Institute of Technology in which land-fill operations would connect Randall's and Ward's Islands to Manhattan and, together with the railroad yards of the South Bronx, the entire area would be developed as a complex of housing, multiple-use buildings, parks, recreational facilities, and lakes. It was suggested diagrammatically that Welfare Island could be developed in a similar manner by connecting it to the Queens shore by three land masses, with two lakes created within the land fill.

It has been suggested that an atomic energy plant could be built on the island, providing a central source of power for the entire city and making obsolete current pollution-producing power plants. If the plant were constructed mainly underground, the surface of the island could be left to another use, possibly a park.

In 1967, the Daily News invited readers to suggest possible uses for Welfare Island. The resulting proposals included most of the uses which have been mentioned above, plus:

- low- and middle-income housing for the elderly; a "Leisure Village" to rescue them from "cheap hotels, rooming houses and shabby apartments;"
- luxury housing "to bring money into the city;"

- a center for rehabilitation of narcotics addicts;
- a zoo;
- a dog track, harness-racing track, baseball and football fields, etc.;
- a gambling casino “to help keep taxes down.”

Criteria For Evaluating Development Proposals

As can be seen from the previous section, there are many existing proposals that must be evaluated, and more will doubtless arise in the course of future study. Some of these proposals were generated solely in opposition to other proposals, while some envisaged multipurpose development to partially satisfy a variety of needs and their partisans.

The first requirement of a successful development plan is that it must be sufficiently well-conceived and well-justified to achieve a broad base of support. To arrive at such a plan, and to present it convincingly to the city and to the public, a set of realistic criteria for evaluation must be established. The following discussion touches on some of the elements that should be considered in establishing such criteria.

Ownership

Since 1828, Welfare Island has been city property, with the exception of some of the church buildings. Some previous proposals contemplated having the city relinquish all or part of its property rights, while others foresaw the island's use solely for city operating functions, such as hospitals.

Needs of the City

The needs of New York are many and often conflicting (i.e., it needs both parks *and* housing). One problem will be to evaluate the extent to which the most pressing needs can be best met on the island, keeping in mind that the adjacent areas of Queens contain much underutilized space, and have pressing development needs of their own. The island cannot be considered in isolation, but must compete for funds and attention with other areas.

No proposed land use plan for Welfare Island could presume to answer all of the community needs of New York City or to provide a solution to any single major need. Proposals should be evaluated, therefore, in the light of a relative order of social and economic needs.

The Size and Location

Welfare Island is not just 147 acres of city-owned real estate. It is an island, it has a special shape, and it is in a particular location. To the extent possible, a successful development proposal should exploit the advantages of these factors and minimize the disadvantages.

Effect on the Environment

It has been said that the island can be developed as a “valley” or as a “spine,” i.e., with low-rise development that will not visually cut off Manhattan from Queens, or high-rise development that will. In general, park advocates support the valley view.

In addition to the visual environment, the problems of water and air pollution must be considered. It must be practical, for example, to adequately collect and treat liquid wastes. For a large housing project this would be a major problem, as it may be difficult to provide treatment on the island and pumping sewage to Queens would require major new transmission and treatment facilities.

Major increases in the island’s population would also require new facilities for heating, constructed so as not to exacerbate New York’s air pollution problem, and located so as not to interfere with the other island facilities.

Existing Facilities

Any proposal to eliminate presently active hospital and Fire Department facilities should take into account the physical and financial problems associated with their relocation.

Transportation

Any successful development program for Welfare Island must include a technically sound and financially justifiable transportation system, capable of accommodating peak loads for the proposed land use.

The present transportation facilities are awkward and inadequate, even for the current limited use of the island. This has been a major factor in the present decline in use of the island.

Many of the proposals reviewed would require significant increases in transportation capacities. Some envision unconventional modes of transportation for people and supplies. Others would require substantial parking facilities, terminals, and docking installations. The technical and financial practicability of solutions to the transportation problem should be investigated before passing on any proposal.

East River

Velocities of the reversing currents in the East River are already critically high. Any constriction of the river, as would be produced by damming or filling the East Channel, would increase the present velocities. Several existing proposals are based on such filling.

If any of these proposals are seriously pursued, it may be necessary to make model tests in the Corps of Engineers hydraulic model of New York harbor, located at the Waterways Experiment Station in Vicksburg, Mississippi.

The shipping channels have strict clearance requirements, which must be considered in evaluating proposed new bridges.

Finances

Several development proposals involve quite large sums, to be supplied variously from private, city, state, and federal sources. A evaluation of these proposals should determine the realistic expectation of obtaining these funds, bearing in mind the particular interests of the agencies involved, and the competition from other sources for these funds.

Acceptability

Even if the proposed project meets all requirements for technical and financial feasibility, it will fail without the backing of those interested parties necessary to transform the proposal into successful reality.

Acceptance may be necessary by the city administration and its legislative body, city and regional planning groups, certain state and federal agencies, the press, groups representing such sectors of the community as business, labor, minorities, and religions, and those individuals most directly concerned and affected.

Appendix B

THE HOSPITALS

Introduction

The future of the two hospitals presently located on Welfare Island is a key element in any proposed development program. In deciding their future, the following factors should be considered:

- the health and hospital needs of New York City, with particular reference to long-term care for the chronically ill;
- the extent to which the present institutions are meeting those needs;
- the present condition and probable useful life of the physical plants, and the cost of relocating the facilities in the near future in other locations in New York City;
- the desirability of maintaining patients in an “island” setting; and
- the possibility of improving the present institutions to serve better the medical needs of the city.

Summary

Following is a summary of the major points contained in this section.

1. The health and hospital needs of New York City residents are far from being adequately met in the opinion of most expert observers.
2. The need for long-term care services has been increasing as the number of older persons in the population has increased.
3. Of the total 18,982 patients in all extended care facilities in New York City on April 14, 1966—units of general hospitals, voluntary chronic hospitals, convalescent homes, nursing homes infirmaries and city-operated hospitals—Coler and Goldwater Hospitals together contain 2708 or 14 percent.
4. Bird S. Coler Hospital and Home and Goldwater Memorial Hospitals together include 72 percent of the total city-operated long-term hospital beds and almost 60 percent of the city-operated nursing home beds.

5. Almost all patients in Coler and Goldwater—more than 98 percent—are on partial or full public assistance or receive free treatment.

6. Although city-operated long-term care hospitals and infirmaries account for 20 percent of the total long-term care beds in New York City, they accommodate 46 percent of the non-white long-term care patients.

7. The Health and Hospital Planning Council of Southern New York estimates that there is a present shortage of 10,695 extended care beds in New York City. In addition, many present nursing homes do not meet minimum standards, but are permitted to continue operation because of the shortage of beds.

8. The physical plants of Coler and Goldwater Hospitals are basically in good condition.

9. The estimated design and construction cost of replacing Goldwater Hospital with a modern facility having the same bed complement would be about \$57,600,000. The equivalent cost for replacing Coler Hospital would be about \$80,000,000, for a combined total of \$137,600,000, exclusive of land costs. It is apparent from these figures that the replacement of these facilities elsewhere at the present time is financially impracticable, even if it were otherwise desirable. Their abandonment without replacement is unacceptable.

10. Most health experts favor the location of long-term care beds as part of a general hospital situated directly in a community, as opposed to isolating a facility on an island. However, the isolating effect on Welfare Island will in some measure be overcome when adequate transportation is provided to and on the island, if a joint patient-community park system is developed, if housing and community center facilities for patients, staff, and the public are provided on Welfare Island, and if there is sustained attention to the need for patients to be part of a broader community life.

11. If Coler and Goldwater are retained on Welfare Island, consideration should be given to changes in their programs and operations to make them more effective in meeting New York City's needs. Areas to be explored might include a unified administrative structure over both hospitals, a regrouping of patients, and construction of a wider range of living accommodations for the chronically ill patient.

12. Speculation over the future of both hospitals has had a negative effect on patient morale and has hurt efforts to recruit personnel. An early public announcement on the

future of both hospitals would be desirable.*

* * *

Health and Hospital Needs of New York City

According to most expert observers, the health and hospital needs of the population of New York City are far from being adequately met.

In December of 1966, Mayor Lindsay appointed a Commission on the Delivery of Personal Health Services, which reported in November of 1967 as follows:

"Finding 1. Nearly half the population of New York City (and four-fifths of those over 65) receive their medical care at public expense. The health services available to them through public and private institutions fail to meet their urgent needs for preventive and ambulatory care, on the one hand, and for long-term care on the other. As a result, these people and the city are burdended with costs of excessive hospitalization and other costs not so easily measured.

"Finding 2. In providing inadequate and substandard care and in serving only the indigent population in its own hospitals and clinics, the city is perpetuating a dual system of medical care with a built-in invidious double standard of private and welfare medicine. The system is demeaning to all concerned and wastes the resources of the local medical economy.

"Finding 3. The city health agencies are impeded in the performance of their functions by the fragmentation of their assigned mission, by their own archaic administrative structures, and by dissipation of their authority in the system of checks and balances administered by the overhead agencies of the City and mandated by both state and city law."

Reports of other study groups and experts confirm these findings.

New York City has been steadily increasing its expenditures for health care, however. In the current year, health services comprise almost \$800 million—one-sixth of the total city budget—the largest expenditure after education and welfare.

*This recommendation was previously transmitted in a July 10, 1968 letter from the Committee to the Mayor.

Present Long-Term Care Facilities

Coler and Goldwater Hospitals provide “long-term” care, as distinguished from “acute care.” Long-term care is conventionally defined as involving hospitalization or institutionalization for longer than thirty days. The terms “chronic care”, “extended care”, and “long-term care” are often used interchangeably.

The long-term patient generally suffers a disease or disability that is not self-limiting in course, but chronic in nature, in which improvement is generally limited, and recovery is rare. For many such patients, the prognosis is bleak, with progressive deterioration of their condition, although vigorous rehabilitation programs can help in many cases to arrest or reverse the deterioration. Patients do not view themselves as suffering from temporary illness to be followed by recover, but view their afflictions as lasting aspects of their lives.

Long-term medical care facilities form an important part of health service. The need for long-term care has been increasing as the number of older persons in our population has increased through longer life expectancy. Any dramatic breakthrough in the search for cures for cancer and heart diseases would accelerate the numbers of aged and thereby further increase the demands for long-term medical facilities.

Table B-1 indicates the type of facility housing New York City’s 18,982 long-term care patients as of April 14, 1966.

Bird S. Coler and Goldwater Memorial Hospitals comprise a substantial portion of the total long-term care facilities available in New York City. Together, they make up 72 per cent of the total city-operated long-term care hospital beds and almost 60 per cent of the total city-operated nursing home beds, as shown in Table B-2.

Almost all patients in city-operated chronic hospitals and nursing homes are on partial or full public assistance. The impact of inflation, coupled with an increased life expectancy rate, has resulted in a large number of chronically ill persons, usually living on fixed incomes, who have exhausted their life savings during the first stages of a long-term illness. After their cash savings have been depleted, they are likely to be referred to a city-operated long-term care facility.

City-operated hospitals and nursing homes provide accommodations for 15 per cent of the total white chronic patients and 46 per cent of the total non-white chronic patients in New York City.

Table B-1

**Patients in Long-Term Care Facilities, by Type of
Facility, New York City, April 14, 1966***

Type of Facility	Number of Patients
Voluntary Nonprofit Chronic Hospitals	2,656
City of New York Chronic Hospitals (Coler, Goldwater, and Sea View)	1,823**
Proprietary Nursing Homes	8,813
Voluntary Nonprofit Nursing Homes	398
City of New York Nursing Homes (Including nursing home beds in city- operated general and chronic-care hospitals)	1,930
Long-Term Care Units of General Hospitals	562**
Convalescent Homes (For patients recuperating from acute illness)	133
Infirmaries of Homes for Aged	2,667
Total Patients	18,982

*Source: Health and Hospital Planning Council of Southern New York, *Survey of Long-Term Care Facilities in Southern New York*, December, 1967.

**Does not include nursing home type beds in city-operated general and long-term care hospitals. These are included under City of New York Nursing Homes.

Table B-2

**Long-Term Care Beds, Average Daily Census and
Occupancy Rate for New York City Operated Institutions***

Institution	Bed Complement January 1, 1967	Average Daily Census 1966	Occupancy Rate 1966
Bird S. Coler Hospital	1,668	1,613.7	91.1
Goldwater Memorial Hospital	1,200	1,020.4	81.5
Sea View Hospital and Home	878	818.8	93.3
Bellevue Hospital Center	64	47.0	73.4
Bronx Municipal Hospital Center	46	36.2	75.0
City Hospital Center at Elmhurst	160	149.9	93.7
Coney Island Hospital	173	116.0	67.0
Kings County Hospital Center	87	70.2	85.6
Metropolitan Hospital	20	17.9	89.4
	4,296	3,939.4	94.4

*Source: Health and Hospital Planning Council of Southern New York, *Hospital and Related Facilities in Southern New York*, 1967.

Long-Term Care Facilities — Unmet Needs

The Health and Hospitals Planning Council of Southern New York was consulted to determine the extent to which the current number of extended care beds are meeting the requirements of the population of New York City. The Council is a nonprofit corporation operating on a budget in excess of \$1 million provided by federal and state governments, hospital insurance funds, labor unions, and voluntary agencies. Its general purposes are “to advance, promote, and advise on the development of health services, facilities and personnel for the benefit and welfare of the community in the area comprising. . . the counties of the Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster and Westchester.”

The Council recently completed a study of extended care facilities. This study concluded that there is now an acute shortage of long-term care beds in New York City. By

1972, the Council estimates a total need in New York City for 33,000 extended care beds in hospitals and nursing homes. There are currently 22,305 such beds, leaving a deficit of 10,695 beds.

As mandated by New York State Law, the Council reviews and provides recommendations to the appropriate state agency on all proposals for the establishment and construction of new health care facilities and all proposals for construction at existing health care facilities. The Council has approved applications for construction of 9,400 additional beds, almost all of these in voluntary nursing homes. These applications were inspired by the 1966 New York State Nursing Home Companies Law, under which \$100 million in long-term low-interest loans was provided for the construction of nursing home facilities by voluntary agencies. However, the original funding was exhausted with the construction of only 2400 beds. In June 1968, the New York State Legislature authorized an additional \$400 million for this program.

The need for additional long-term care beds is confirmed by Mr. Lloyd Siegel, Assistant Commissioner of Hospitals for Facilities Planning and Construction and by Dr. Ray E. Trussell, former New York City Commissioner of Hospitals and later Director of the School of Public Health and Administrative Medicine of Columbia University. Both Mr. Siegel and Dr. Trussell pointed out that the need for new extended care beds is actually *greater* than the figure projected by the Council, since a large number of the existing beds in nursing homes do not meet minimum New York City Department of Hospitals licensing requirements. Because of the current shortage in beds, the Department of Hospitals allows these nursing homes to continue operating.

While the Health and Hospital Planning Council and other experts consulted agree that New York City has sufficient beds (37,414) for acute care, most of these acute care beds in city-operated hospitals are in dire need of replacement. Although there is no master plan for city hospital construction, Mr. Siegel has stated that the major thrust over the next several years will be the replacement of obsolete acute care facilities and construction of neighborhood family care centers.

The entire 1968-69 capital budget for the New York City Department of Hospitals is less than \$42 million. These funds include provision for design of acute care facilities valued at over \$280 million and intended to replace existing facilities.

Relocation of Coler and Goldwater Hospitals

Goldwater Memorial and Bird S. Coler Hospitals were both designed in the 1930's. Goldwater was opened in the summer of 1939. Construction of Coler Hospital was delayed by World War II and it opened in 1952.

The hospital buildings at Goldwater occupy about 615,000 square feet. It has 768 hospital beds and 432 infirmary beds, giving a total capacity of 1200 patients. The basic structure and roof are in good condition. Some work is required to increase the electrical system, replace plumbing fixtures and give it a general face lifting. The current budget includes \$1.6 million for such renovation work. The city awarded contracts totalling \$2,314,171 on April 30, 1968, for construction of a new activities wing. This wing will contain additional occupational and physical therapy facilities, an auditorium, three chapels, a canteen, a library, and chaplains' apartments.

Coler Hospital contains 582,586 square feet, and has 919 hospital beds and 749 infirmary beds for a total capacity of 1668 patients. The structure is in good condition and the buildings are well maintained.

In arriving at replacement costs for these facilities, the Committee consulted the New York City Department of Hospitals, the Health and Hospital Planning Council of Southern New York, and the New York City Department of Public Works.

Current design and construction costs for new general hospitals vary from about \$50,000 per bed for community hospitals to about \$90,000 per bed for hospitals with major teaching and research functions. Costs for nursing homes vary from \$24,000 to \$40,000 per bed. After carefully reviewing the number and type of patients in Coler and Goldwater Hospitals, the number and type of hospital procedures performed annually, and the teaching, research, and rehabilitation programs, the Health and Hospital Planning Council of Southern New York estimated that the design and construction cost of modern replacement facilities for Coler and Goldwater Hospitals would average about \$48,000 per bed. Thus a 1668-bed replacement for Coler would cost about \$80,064,000 and a 1200-bed replacement for Goldwater would cost about \$57,600,000. These figures reflect current costs, which rise yearly and do not include the cost of land.

As noted above, the total 1968-69 New York City capital budget for the Department of Hospitals is \$42 million. The bulk of this amount is for planning and design of neighborhood family care centers and of replacements for some present acute care hospitals.

The “Island” Setting

There is a wide divergence of opinion over the most desirable location for long-term care facilities.

Currently, the majority of health experts favor the establishment of two to three hundred bed long-term care units, each being part of a general hospital complex situated directly in the community it serves. Proponents of this approach urge the long-term patient should not be removed from his familiar surroundings, his family and friends, and placed in “isolation” in a distant new environment. In their view, removal from the community harms the patient psychologically and decreases his ability to recover. Isolation also increases the difficulty of visits from family and friends. Some experts further maintain that it is difficult to attract top-quality medical personnel to an institution that is entirely devoted to long-term care and out of the main stream of the community.

On the other hand, other experts feel that the facilities on Welfare Island offer advantages over other locations in New York City. Welfare Island provides ample outdoor space for patients to move around. It could well prove impossible, for financial and other reason, to provide this capability at a new location in New York City. The nature of most relocation areas might require patients to spend most of their time confined to a room or a ward. Patients at Coler and Goldwater indicated that they share this view. They generally like the location, particularly the adjacent outdoor space, and they strongly feel that these institutions should be retained on Welfare Island. These feelings are undoubtedly reinforced by lack of knowledge of what the alternatives would be.

While acknowledging the desirability of having small chronic care units attached to general hospitals, many experts feel that one or two large chronic hospitals like Coler and Goldwater are necessary to provide specialized treatment and rehabilitation services required for certain types of patients, such as those with respiratory illness, cerebral palsy, and polio, and to provide teaching and research facilities for specialists in chronic illnesses.

Many of the advantages of a “community” location could be achieved in greater measure for the hospitals on Welfare Island. Improved transportation on the island and better connections to Manhattan and Queens would make visits by families and friends less difficult. Better transportation would help patients who are able to make trips within and outside of Welfare Island. Further, an improved transportation system would greatly assist both institutions to recruit personnel.

Second, the development of a park and recreation system on Welfare Island would attract persons from the outside community to the island. Properly designed and developed, the system would encourage a “mix” of patients and outside community residents in the use of the facilities.

Third, the construction of a limited number of housing units and some community facilities would increase the “life” of the island. Patients and doctors at both hospitals have urged a housing plan including some units specifically designed for handicapped persons who now reside at Coler and Goldwater. There are many patients in both hospitals who are able to get around but remain in these hospitals because there are no relatives with whom they can live or adequate housing available that provides the necessary physical features. By designing units with ramps, doorways large enough for wheelchairs to pass through, low-top kitchen units, and step-down baths, many of these patients could be moved into housing on Welfare Island that would increase their self-sufficiency and pride and reduce the costs to the city for their support.

In their discussions with the Committee, the staff members of Coler and Goldwater expressed great interest in having some housing on Welfare Island that was allocated to hospital employees, and felt it would help to attract and keep personnel.

Future Roles

If Coler and Goldwater Hospitals remain on Welfare Island, consideration should be given to changes in their programs and operations to make them more effective in meeting New York City’s needs for care of the chronically ill. The following improvements have been suggested by the staffs at both hospitals and by outside medical experts.

1. *Unified Administration.* Although Coler and Goldwater Hospitals are located on the same island, are less than one and a half miles apart, and are both units of the New York City Department of Hospitals, they operate as two sovereign entities. Intercommunication and joint efforts between the two institutions appear to be almost non-existent. For example, Coler Hospital has a surgery unit in which surgical procedures are performed for its patients. Goldwater Hospital sends its patients off Welfare Island to Bellevue Hospital for surgical care, despite the fact that Coler’s surgical unit is underutilized. Goldwater operates two incinerators for the disposal of refuse. Coler, lacking incinerator facilities, has its refuse picked up by Sanitation Department trucks and removed from the island.

If both institutions remain on Welfare Island, one administrator might control both facilities. Consolidation of some laboratory services, maintenance forces, pharmacies, accounting, personnel, dietary, and training functions might result in both fiscal savings and a higher quality and more flexible range of service.

2. *Regrouping of Patients.* Both Coler and Goldwater treat basically the same types of long-term care patients, ranging from bedridden cases requiring intensive medical and nursing care to those who are fully ambulatory and require minimum care. Of the total of 2,708 patients in both hospitals on April 14, 1966, it was estimated that 660 were fully ambulatory, 1679 were semiambulatory, 309 were bedfast, and the condition of the remaining 68 was not classified.

Since the level of care and cost required varies sharply between the bedfast patient and the ambulatory patient, consideration might be given to regrouping the patients to locate those patients requiring constant nursing care in one facility and others requiring minimum care in the other.

Full-Range of Facilities - A variation of the consortium approach has been suggested by many. They propose the construction of a complete range of living quarters for the chronically ill. These facilities would include hospital beds, nursing home facilities, specially designed "hotel" facilities, and apartment facilities with homemaker services. Under the program the patient could, in stages commensurate with his medical improvement, move from the more intensive care facilities to the more independent (and less costly) living quarters. These movements would all take place withing Welfare Island under a continuing medical program.

Need for Decision on the Future of Coler and Goldwater Hospitals

Over the past several years, there has been frequent public discussion about the development of Welfare Island and, at least by implication, the future of Coler and Goldwater Hospitals.

Several staff members at both institutions have commented on the disconcerting effect that these announcements have on the operation of both hospitals. The patients become extremely upset when they read or hear of speculation that the hospitals may close. For many patients, these hospitals have been their residence for many years. Many consider the island to be their home—often their last home.

Further, such announcements and speculation on the future of Coler and Goldwater Hospitals increase the already difficult task of attracting qualified professional staff.

An early authoritative pronouncement on the future of both hospitals would help to reassure the patients and to make staff recruitment and retention easier.

Appendix C

TRANSPORTATION

Welfare Island's past history and present stagnation, in spite of its enviable location in the heart of the Metropolitan New York area, are due in large measure to the inadequate transportation linking this small island to the rest of the city. In past studies, it has been assumed that the limited potential for improving transportation would inhibit any development that depended on moving large groups of people, particularly during the rush hours.

This section is based on studies performed for the Committee by D&R and a team of transportation specialists drawn from the Polytechnic Institute of Brooklyn. It examines the existing transportation systems that now serve Welfare Island and adjacent areas of Queens and Manhattan, identifies ways in which these can be altered to improve service to the island, and discusses new systems which might be developed to supplement traditional types of service.

The types of possible development that have been considered for Welfare Island each have differing transportation requirements. For a housing development, the heaviest transportation demands would be made by residents going from Welfare Island to Manhattan in the morning and returning from work in the evening. These residents would be traveling with the peak rush hour crowds on a system that is already heavily crowded. On the other hand, to the extent that Welfare Island is developed as a park and recreation area, travel to and from the island would be stimulated in off-peak hours. This may cause transportation facilities, basically sized to handle peak loads, to be used more uniformly during the day. If a major employment center were developed on the island, workers could be expected to come to the island from both the Manhattan/Bronx direction and the Queens/Brooklyn direction. The proportion of travelers in each direction would be determined in part by the type of employment offered on the island. In this case, it is not expected that transportation would be a major limiting factor, although Queens residents might find transportation facilities crowded by Manhattan-bound travelers.

The following conclusions seem valid:

- the key element in Welfare Island transportation will be a stop on the new 63rd Street Manhattan-Queens subway, which is currently scheduled to start operating late in 1976;
- buses and automobiles can provide supplementary transportation to and from the island, especially in off-peak periods;

- no other transportation methods to and from the island are essential to serve the housing or recreation complexes that may be developed on the island pursuant to the recommendations of the Committee, although some new systems warrant further evaluation during the design phase of any development project selected;
- a bridge or tunnel to the Manhattan side would be so enormously expensive in relation to their prospective utility and would present so many other problems that both are deemed infeasible;
- any major development on the island will probably require some form of on-island transportation system, and further study is needed to evaluate such systems; and
- while water transportation is not seen as a major source of moving people to and from Welfare Island, its development as an ancillary source of transportation could add both interest and convenience to the island for the uses recommended by the Committee.

Rail Transportation

Five existing Queens-Manhattan subway lines now pass beneath the East River in the vicinity of Welfare Island (Figure C-1). The EE and RR lines pass under the island in the 60th Street Tunnel. The E and F lines pass under the island at 53rd Street. The IRT #7 line passes under the East River about a quarter mile south of the island. The RR and #7 lines pass through an elevated station at Queensboro Plaza and the other three lines pass through a nearby underground station designated Queens Plaza. Connection to Welfare Island is made by transferring at these stops to the Q102 Bus discussed below.

The 60th Street Tunnel passes 120 feet below the surface of Welfare Island at a 4.2 percent grade. The 53rd Street Tunnel crosses the island 100 feet below the surface at a 1.8 percent grade. Since for reasons of safety, it is undesirable to build stations on grades steeper than one percent, Welfare Island stations on either of these lines could not be provided without a major construction project involving excessive costs and unacceptable downtime on the tunnels.

Metropolitan Transit Authority data show that the five subway lines between midtown Manhattan and the Long Island City–Astoria area are currently used by a combined total of 397,000 Manhattan-bound weekly passengers. During the peak travel hour of 8-9 A.M.,

FIGURE 1
APPROXIMATE LOCATION OF
EXISTING AND PROPOSED
SUBWAY LINES

-  EXISTING LINES
-  PROPOSED LINES
-  EXISTING EXPRESS STOPS
-  EXISTING LOCAL STOPS



these lines are used in excess of their design capacity, with as many as 270 passengers crammed into cars designed for a maximum of 220 persons.

To alleviate this situation, the MTA's Phase I Transit Expansion Program (covering the period through 1975) includes plans for a new East River tunnel to be built between Long Island City and 63rd Street, Manhattan. This tunnel will pass under Welfare Island just north of the Queensboro Bridge. It was scheduled for completion in 1975, although the most recent estimates indicate that operation may not begin before late in 1976.

Provision has been made in the present design for station platforms and a mezzanine level located below the present tennis courts south of the Central Nurses Residence. To open a Welfare Island station, the only major additions would be escalators, stairs, finishing of station surfaces, and installation of station controls, at an estimated total cost of \$1.5 million. If this station were to serve large numbers of passengers, such as would be encountered with a very large housing complex on the island, more than the usual escalator capacity would have to be provided.

The new 63rd Street tunnel, in addition to relieving congestion in the existing tunnels, will absorb part of a 14 percent increase in Queens/Manhattan traffic expected between 1967 and 1975. Table C-1 summarizes the MTA estimates of expected weekday usage in the Manhattan direction of each of the East River subway tunnels in 1967 and projected usages for 1975 and 1985.

It is important to note that the MTA figures assume that there will be no additional increase in Queens/Manhattan travel between 1975 and 1985. This is apparently based on an assumption that the number of Queens residents who work in Manhattan will level off after 1975 and that further development of Queens will find an increasing percentage of Queens residents working in Queens, Brooklyn, and eastward Long Island. This assumption implies that construction of additional Manhattan office space will level off in 1975, a proposition that may be open to challenge.

Even if Queens/Manhattan travel continues to increase after 1975, the additional traffic during the 1975-85 period probably would not saturate the subway system. The MTA predicts a reduction of 77,000 Manhattan-bound passengers in the three existing tunnels between 1967 and 1985, while the load on the new 63rd Street tunnel increases to 132,000 passengers by 1985. These 77,000 people are being carried through these tunnels today, albeit with some discomfort, and the same tunnels could handle them in 1985.

Table C-1
Queens-to-Manhattan Travel Demand
1967 to 1985

Weekday Manhattan-Bound Traffic			
Tunnel	1967	MTA Phase 1 1975	MTA Phase 2 1985
60th Street	110,000	102,000	98,000
53rd Street	168,000	120,000	115,000
42nd Street	119,000	111,000	107,000
63rd Street	—	119,000	132,000
Total	397,000	452,000	452,000
Increase	—	55,000 (14%)	0

Source: MTA and NYCTA Application to the Board of Estimate and Mayor Lindsay for approval of construction plans, June 6, 1968.

Thus, Manhattan-bound traffic in 1985 could total as much as 77,000 above the MTA projections for that year (i.e., a further increase of 17 percent) without using the 63rd Street tunnel more intensively than is projected, and without having the existing tunnels carry more than their present loads. It follows, therefore, that we can reasonably assume any excess capacity in the 63rd Street tunnel in 1985 that is indicated by the MTA figures probably can be counted upon, even if *total* Manhattan-bound traffic increases somewhat between 1975 and 1985.

Table C-2 shows that the 63rd Street tunnel is expected to be used below its available capacity. This excess capacity could be absorbed by Welfare Island traffic. It is projected that the new tunnel could carry over 24,000 morning rush-hour passengers each day from Welfare Island to Manhattan in 1975 and almost 20,000 in 1985.

Table C-2

**The 63rd Street Tunnel Volume/Capacity Relationships
In the Peak Hours**

	Peak Hour Capacity*	Peak Hour Riders**	Reserve Peak Hour Capacity
Phase 1 - 1975	66,000	41,700	24,300
Phase 2 - 1985	66,000	46,200	19,800

*Based on 10-car trains, 30 trains per hour, 220 passengers per car.

**Based on peak-hour ridership of 35% of daily Manhattan-bound travel.

The Committee recommends that one station on Welfare Island be completed simultaneously with the completion of the line, but feels that, in view of the limited housing recommended, the normal escalator and waiting room capacity will be adequate.

Several questions need to be discussed regarding the accuracy of these estimates and the adequacy of the 63rd Street tunnel as a principal means of access.

The MTA estimates are based on:

- running the maximum number of cars through the tunnel (one 10-car train every two minutes) during rush hours,
- filling the cars to their maximum “reasonable” capacity,
- a very limited future increase in the total number of Queens-Manhattan peak hour subway passengers using all East River tunnels, and

- a distribution of rush-hour passengers among the existing 42nd Street, 53rd Street, and 59th Street subways and the new 63rd Street subway under the East River that would provide enough “surplus capacity” in the 63rd Street tunnel to carry 20,000 additional Welfare Island passengers in the peak rush hours.

There does not appear to be any question about the number of cars that could be handled. However, the City Planning Commission, in a report dated August 1968, questioned the MTA figures on train capacity, stating that future transit planning should provide for higher levels of comfort and less crowding.

The CPC report acknowledged that reducing the number of passengers per car would result in higher costs without producing higher revenues, and ventured the hope that federal funds would help cover the increased deficit.

The CPC passengers-per-car figures would eliminate the “surplus capacity” that would be available on the 63rd Street tunnel to carry Welfare Island passengers. The CPC calculations do not change the physical situation, only the way of looking at it.

MTA predicts very little increase in the number of passengers crossing the East River by subway. Their estimate is based in part on the lack of any increase in the past decade. They assume that the new 63rd Street tunnel will primarily relieve overcrowding, rather than provide for additional passengers. These projections may be too optimistic, however, since commuter traffic often follows the Parkinsonian principle of expanding to fill (and overflow) the available capacity.

The greatest problem with subway capacity would be in the morning, when trains might be filled in Queens before reaching the island. In the evening, island-bound passengers would have the same opportunity as Queens-bound passengers to board trains in Manhattan.

There are methods available, however, by which space could be assured for Welfare Island passengers in the morning. One method would be to reserve several cars on each train for Welfare Island passengers. In order to accomplish this, however, it would be necessary to seal both the loading doors of the selected cars and the doors between cars until the train reached the Welfare Island station. Another and perhaps better method would be to provide special trains from the island to Manhattan. This might involve some scheduling and switching problems, but could provide a sound and controllable solution.

During the off-peak hours of the day, excess capacity in the 63rd Street tunnel available to passengers traveling between Welfare Island and Manhattan, and vice versa, would greatly exceed the rush hour capacity. Figures C-2 and C-3 show graphically the expected level of excess tunnel capacity in both directions at each hour of the day, based on traffic levels forecast for 1985 and on present-use patterns. This is particularly important in examining such alternatives for Welfare Island as intensive recreation facilities, which would load the subway at off-peak hours. For example, if the peak travel hour for such a facility were assumed to be 10-11 P.M., the 63rd Street subway tunnel could theoretically move up to 65,000 passengers in that hour from the island to Manhattan. However, the true maximum number that could be handled would be limited by the facilities to move large numbers of people from the island's surface to the station platform and, in turn, into the trains. A single escalator can move between 4,000 and 10,000 persons per hour.

Road Access

Since vehicular traffic from the Queensboro Bridge stopped using the Elevator Building in 1955, the only road access to Welfare Island for buses, trucks, taxis, and private automobiles is via the Welfare Island Bridge to Queens. Traffic originating in Queens or Brooklyn can reach the bridge's terminus at 36th Avenue and Vernon Boulevard by a variety of routes. The Queens access to the bridge is not now overloaded and could be expanded considerably in the future, particularly if a few changes are made. Traffic from Manhattan, the Bronx, and points west must first cross into Queens in order to reach the island via the Welfare Island Bridge. The principal crossings involved are the Triborough Bridge, the Queensboro Bridge, and the Midtown Tunnel.

The Welfare Island Bridge, connecting the island with the intersection of Vernon Boulevard and 36th Avenue in Queens, is now used far below its capacity. The estimated present maximum average traffic across the bridge is 410 cars per hour Queens-bound during the evening rush hour. At most other times, the traffic is less than 200 cars per hour in either direction. With the present two-lane arrangement on the bridge, the capacity of the bridge and its associated road network (with minor modification) is estimated to be 1500 cars per hour in either direction.

To use the bridge more effectively, it is possible to turn the present two 17-foot lanes into three lanes, 11, 12 and 11 feet wide. Two lanes could be operated in the direction of major traffic flow to handle 3000 cars per hour and one lane in the opposite direction to handle 1500 cars per hour. However, the intersection of Vernon Boulevard and 36th Avenue, through which all bridge traffic must flow, is not capable of handling as many cars

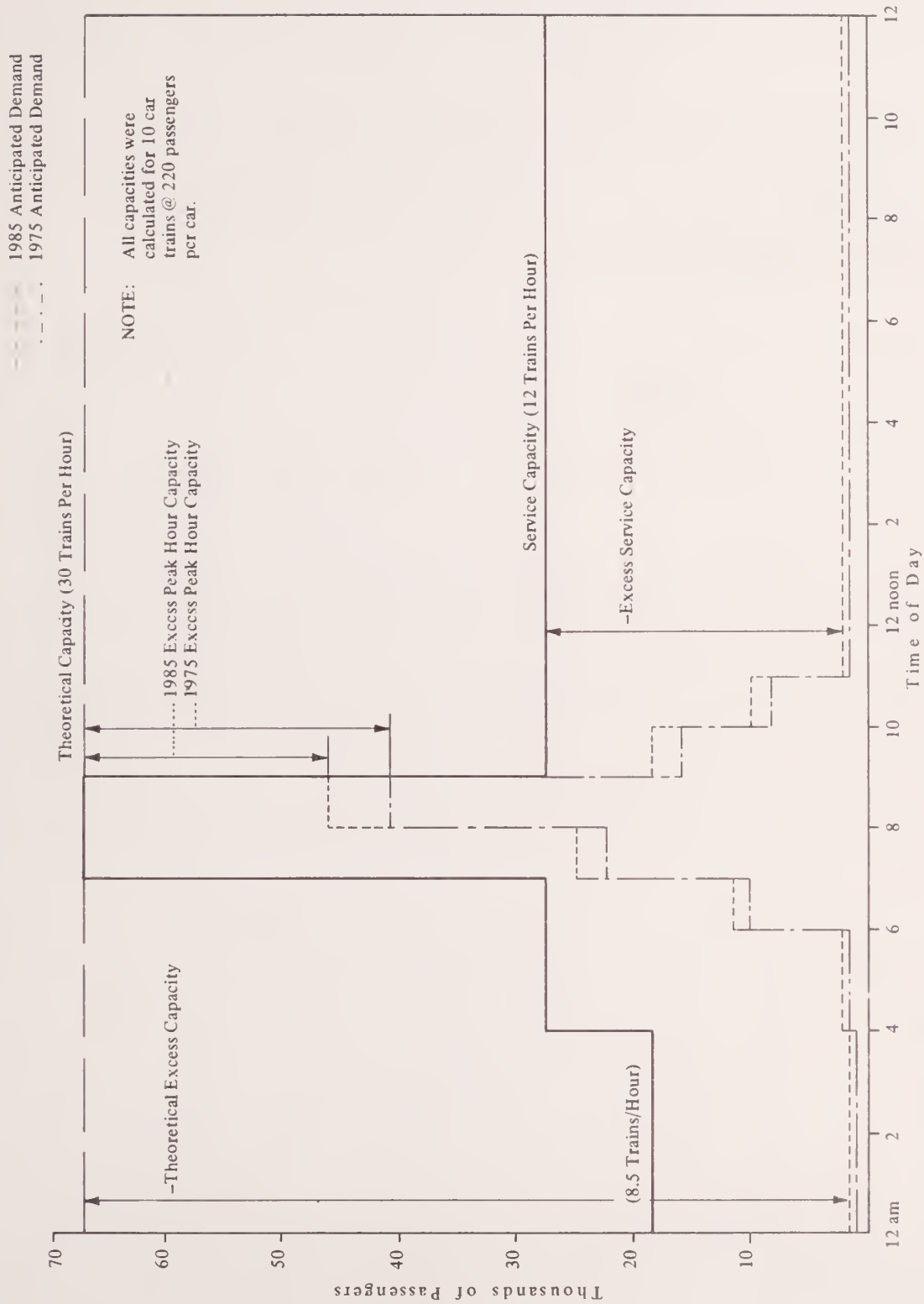


FIGURE C-2

TRAVEL CAPACITY AND DEMAND — 63rd STREET TUNNEL
QUEENS TO MANHATTAN

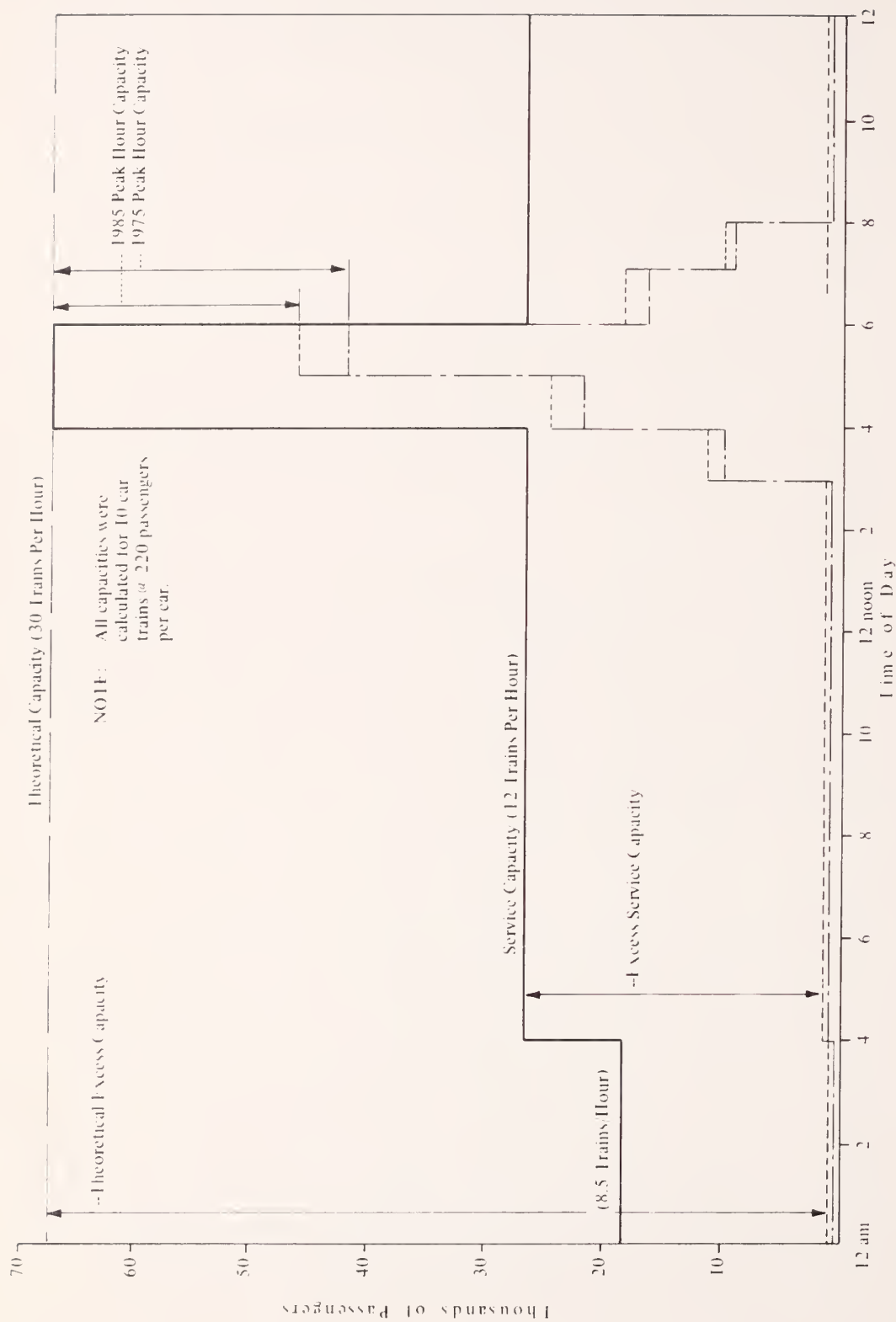


FIGURE C-3

TRAVEL CAPACITY AND DEMAND – 63rd STREET TUNNEL
MANHATTAN TO QUEENS

as the bridge itself (under a three-lane configuration). By modifying the present traffic signal arrangement at the intersection and by applying direction and turning restrictions, the capacity of the intersection could be inexpensively modified to allow off-island peak movements of up to 1900 vehicles per hour and on-island peak movements of up to 2500 vehicles per hour.

The Queens street network, which feeds cars to the bridge and receives cars from it, is apparently capable of handling as many cars as can be passed through the Vernon Boulevard/36th Avenue intersection to and from the bridge, although parking restrictions might have to be imposed in peak hours and traffic signal changes would have to be made. However, a major new development of the adjacent areas of Queens could result in heavier traffic on the Queens street system, which could restrict the flow of traffic to and from the island, particularly during rush hours.

The Welfare Island Bridge is a lift span with a clearance of 40 feet above mean high water in the lowered position and 99 feet above mean high water when raised. For two years the lift mechanism has been inoperable and most shipping has been required to use the West Channel. When present repairs are completed, the lift will be operable again. This will not seriously affect present levels of traffic on the bridge, but it could have an adverse effect on increased traffic resulting from intensive development of the island.

The Queensboro Bridge has an estimated maximum capacity of 7,500 cars per hour in each direction. However, the present morning peak flow from Queens to Manhattan is kept to 5,600 vehicles per hour and the evening peak flow to 5,000 vehicles per hour from Manhattan to Queens due to constraints presented by the Manhattan street network.

It might be possible, at considerable cost, to reconstruct the street access system at the Manhattan end to enable the theoretical maximum of 7,500 cars per hour in each direction to use the bridge. This would allow an increase of only 1,900 Manhattan-bound cars per hour in the morning peak, however, and 2,500 Queens-bound cars per hour in the evening peak. This added capacity would be quickly absorbed by vehicles presently using other congested routes across the river. Little or no excess would be available to Welfare Island motorists, certainly not in amounts large enough to justify automobile commuting between Welfare Island and Manhattan via the bridge.

During off-peak hours, use of the Queensboro Bridge for cars traveling between Welfare Island and Manhattan in either direction is quite feasible. Table C-3 shows the excess capacity that is estimated for this route at each hour of the day, based on current traffic

Table C-3

Queensboro Bridge

Available Capacity in Vehicles
By Hour and Direction

Time	Manhattan to Queens	Queens to Manhattan
12 - 1 A.M.	2900	4700
1 - 2	3800	5000
2 - 3	4200	5200
3 - 4	4500	5200
4 - 5	4500	5100
5 - 6	4400	4400
6 - 7	3700	2500
7 - 8	2700	0
8 - 9	2200	0
9 - 10	2900	1300
10 - 11	2700	2800
11 - 12	2700	3000
12 - 1 P.M.	2700	3400
1 - 2	2400	3200
2 - 3	2100	3100
3 - 4	2000	2700
4 - 5	400	2400
5 - 6	0	1900
6 - 7	500	2500
7 - 8	1400	3000
8 - 9	1800	3700
9 - 10	1900	4000
10 - 11	1800	4000
11 - 12	1800	4100

patterns and on an assumed west-bound capacity of 5,600 cars per hour and east-bound capacity of 5,600 cars per hour. Therefore, Welfare Island development that would generate off-peak automobile traffic on the Queensboro Bridge might be feasible. This could include commercial recreation facilities, where maximum traffic levels would probably be generated in the afternoon and late evening, or housing, where personal automobile travel by residents would occur mostly on weekday evenings and weekends.

In the past, several schemes have suggested methods of driving directly from the Queensboro Bridge onto the island. These have ranged from long ramps to a high-rise circular parking garage with a connection from its top level to the bridge.

Although such direct access is not essential to any development plan being proposed, it could be a useful addition. Further study of direct access should be made, keeping in mind that:

- no additional structural load can be placed on the bridge without adding new structural supports,
- bridge access would have to be from the lower deck outboard lanes.
- turnouts would have to clear the existing bridge structural members, and
- the outboard lanes, originally designed for streetcars, have restricted overhead clearances, and only passenger cars are now allowed to use them.

The Triborough Bridge connects the Grand Central Parkway and Astoria Boulevard in Queens with East 125th Street and the East River Drive in Manhattan, and with Bruckner Boulevard and the Major Deegan Expressway in the Bronx. A construction program presently under way to rebuild both the Queens and Manhattan toll plazas will enable the capacity of the bridge to be increased from 55 million to 60 million vehicles per year. Recent traffic counts show that the bridge is operating at capacity for extended periods in both the morning and evening rush hours. This normally indicates that bridge users are being forced to modify their peak-hour travel desires in response to the limitations of the existing system. For this reason, it is expected that the modest capacity increases afforded by the present construction will be rapidly absorbed.

The Triborough Bridge will not, therefore, provide major rush hour capacity for upper Manhattan or for Bronx traffic going to or from Welfare Island. As in the case of the Queensboro Bridge, the Triborough Bridge can provide some off-peak capacity from Manhattan to Queens and thence to Welfare Island.

The Queens-Midtown Tunnel presents a similar picture of rush hour saturation and could not be counted upon to help serve the transportation needs of Welfare Island, except in off-peak hours.

In summary, it appears that rush-hour commuting from Welfare Island to Manhattan or the Bronx via the Welfare Island Bridge and the Triborough or Queensboro or Midtown crossings is not feasible. Off-peak vehicle traffic, including buses, trucks and private automobiles, appears quite feasible.

Bus transportation now provides the only public transportation link with Welfare Island. The Q 102 bus connects Welfare Island with Queens Plaza, where passengers can connect with subways, other bus lines, and taxis.

If future demand warranted, bus transportation from Welfare Island could be considerably increased to Queens Plaza or routed to other locations. However, because of rush-hour congestion on the East River vehicular crossings and in the subways, buses do not offer a reasonable solution for rush hour transportation to and from Welfare Island. For heavy off-peak demands, however, buses offer an excellent supplement to a Welfare Island subway stop. Off-peak use would have the further advantage of utilizing existing fleets of buses, thus avoiding a large capital investment in new equipment.

New bridges or tunnels crossing over either the East or West Channel could provide additional transportation for island visitors or residents. However, studies so far indicate that additional bridges are not essential to the island's development and would present major design and cost problems. If a new bridge over the East Channel were designed, it would be logical from the point of view of serving the island to locate it south of the present Queensboro Bridge. Unfortunately, much of this area on the Queens shore contains multistory industrial structures and a highly congested street system. The bridge itself could be built at a reasonable cost, but it would require enormous expenditures to provide an adequate connecting network within Queens.

Bridge clearances would be a problem in crossing either channel. In the East Channel, it would be necessary to be able to raise the bridge to 99 feet above mean high water. In the

West Channel shipping requirements dictate a fixed clearance of 135 feet above mean high water. In the latter case, it would be expensive and difficult to provide a structure on the island that would conveniently lower vehicles from this height.

However, the principal difficulty with a West Channel bridge or tunnel from Manhattan to Welfare Island would be to justify its high cost in relation to the small increment of persons to be served. From the previous discussion, it is apparent that mass transit can handle the required movement of persons for either housing development or an intensively developed recreation complex, and the Welfare Island Bridge can readily take care of service vehicles and a reasonable number of private automobiles.

It is interesting to note that the Queensboro Bridge is now handling approximately 117,000 vehicles and the Triborough Bridge is handling approximately 155,000 movements to and from Queens in an average day. By contrast, it is doubtful whether a new bridge or tunnel crossing over the West Channel between Manhattan and Welfare Island would handle more than 5000 vehicle movements per day, even under the most intensive development projected.

Parking and on-island transportation present interesting design problems. It seems desirable to avoid using sizeable amounts of land with the conventional pattern of streets and parking on the island. At the same time, pedestrians should be able to move about freely on the island, unobstructed by roads and parking lots. Some roadways must be provided however, for service and emergency vehicles and it may be desirable to make some provision for bus and taxi areas on the island, including ambulances for the hospitals.

The key lies in the method of handling parking. One suggestion has been to keep all vehicles off the island and to provide some form of multistory parking garage on the adjacent Queens' shore. This would involve two basic problems. First, it would require additional land not now available. Second, and perhaps more important, it would require some form of transit link between the parking area and the developed portion of the island. Since the Welfare Island Bridge is a lift-span, rail transit would appear undesirable. A short shuttle loop with buses is possible, but it would involve a return to road transportation on the island and may be unnecessary in the light of the solution proposed below.

It seems possible and desirable to provide a parking structure on Welfare Island located immediately adjacent to the island end of the Welfare Island Bridge. Since the bridge appears to have adequate capacity, the resulting effect on the Queens street system would not differ appreciably from the effect of locating parking on the Queens shore. If the

parking structure on the island included provision for bus and taxi loading, and for connection with some form of on-island transit as discussed further below, the result would seem to be a straightforward design at minimum cost that would provide adequate service for all forms of transport. The parking structure could well be enclosed within a recreation or housing complex, thus sacrificing none of the views, using no additional land, and minimizing on-island vehicular circulation.

Delivery trucks, police, fire, and other emergency vehicles could travel on-island within a minimum road system concealed from public view. The island would thus remain, to all appearances, vehicle free.

Pedestrian Access

Those who wish to walk to Welfare Island, unless they are hardy hikers, find the access limited and the lack of on-island transportation a serious limitation when they arrive. Pedestrians can cross over the East Channel on the Welfare Island Bridge. From Manhattan, pedestrians must take a sidewalk over the West Channel on the south side of the Queensboro Bridge upper level, descend an exposed staircase, cross under the bridge on a narrow walkway, and enter the Elevator Building at the ninth floor level. There is no public sidewalk on the Queensboro Bridge from the Queens side. The sidewalk is not adequately protected from the splashing caused by the traffic in wet weather, and the walkway vibrates with every passing truck. Elevator service for pedestrians is available weekdays only from 7:30 A.M. to 6 P.M.

Although pedestrian access is not a limiting factor for development, any large-scale development proposed should include a method of making life easier for those who wish to walk.

Water Transportation

There does not appear to be any method by which a ferry service—using conventional ships, hydrofoils, or hover craft—could handle any large number of passengers to Welfare Island at a cost low enough to make it financially competitive with the subway. It may be entirely possible however, to institute some form of ferry service which would provide supplementary transportation that would be sufficiently interesting and attractive to some island visitors, particularly those going to the island for recreation, to insure its financial feasibility at a fare substantially higher than the subway fare.

New On-Island Transportation Systems

For any large-scale development of Welfare Island, some new form of on-island transportation system may be required. Since the island is almost two miles long, and only 600 to 800 feet wide, an on-island system would be essentially linear. Such a system might have four stations, with terminal stops at Coler Hospital on the north and Goldwater Hospital on the south, and two intermediate stops, one near the proposed subway stop, and the other in the vicinity of the Welfare Island Bridge. It is assumed that a bus and taxi terminal could be located near the Welfare Island Bridge, together with interior parking for private automobiles.

In such an arrangement, the total system would be one and one-half miles in length, with stops approximately one-half mile apart. It is assumed that peak traffic to end stations at Coler Hospital or Goldwater Hospital might total 500 to 750 persons per hour. The traffic between the two middle stations would depend on the type and scope of new on-island development.

Six different types of transit system were investigated for on-island transportation, including conventional rapid transit, monorail transit expressway, carveyor, buses, and moving sidewalks. In each case, two estimated costs are given. The first figure refers to a capacity of 10,000 per hour between the two interior stations, and the second figure refers to a capacity of 20,000 per hour.

A conventional rapid transit system, would be similar to the New York subway, using steel wheels on steel rails. Cars would be approximately 60 feet long, 10 feet wide, and 12 feet high, and could carry 50 seated passengers and an additional 150 standing. Two trains would shuttle back and forth between the Welfare Island Bridge stop and the subway station stop. Two cars per train would be required to carry 10,000 passengers per hour, and four cars per train would be used to carry 20,000 passengers per hour. One additional car would shuttle the full length of the system, providing service to Coler and Goldwater Hospitals. The estimated capital investment would be \$4 to \$5.2 million.

Monorail system (Alweg) uses load-carrying driving wheels centered directly over a pre-stressed concrete beam, with side wheels providing lateral stability and guidance. Cars are approximately 60 feet long, 10 feet wide and 14 feet high, and are made of high strength aluminum and weigh about 50,000 pounds. Passenger capacity and numbers of cars resemble that of the conventional rail system described above. Capital investment required would be \$5.9 to \$7.3 million.

Westinghouse Transit Expressway is a rapid transit system based on the use of light automated vehicles operating singly or in trains. The vehicles resemble buses, are electrically driven and run on four pairs of pneumatic tires. Each roadway has tracks which are 22 inch ribbons of concrete with a steel I-beam mounted between the tracks and used for guidance. The cars are 30'-6" long, 8'-8" wide, and 10 feet high, with a fully loaded capacity of 28 passengers and 42 standees. Capital costs vary from \$5.7 to \$7.9 million.

A *carveyor system* consists of a series of conveyors on a continuous loop with separate, independent, flat-bottomed cars. At each station, passengers step on to a moving sidewalk that parallels the cars moving at the same speed. As the loaded cars leave the station, they are accelerated to about 15 miles per hour. In order to provide vastly different levels of service to the middle and end stations, either two loops would be required, or the full complement of cars would have to circulate between the Coler and Goldwater stations. Either of these two solutions appear more expensive than is warranted. If we assume that only one loop is provided, and that it would serve only the Welfare Island Bridge and the subway stops, the capital cost would be \$11.3 to \$16.1 million.

A *bus shuttle* system using an exclusive right-of-way between the two middle stations, and a public road to Coler and Goldwater Hospitals, appears to be the least expensive system to install, although it requires more operating personnel. Seating 60 passengers apiece, 18 to 35 buses would be required at a total system capital cost of \$1.2 million to \$1.9 million.

All of the above estimates include vehicles, tracks or guideways, control systems, stations, and maintenance shops and equipment. The peak hourly flows are assumed to arrive uniformly throughout the hour. All construction is assumed to be at grade, or with the supporting structure provided by others. No land costs or operating costs are included. For a high density, short run system of this type, it may be useful to omit fares altogether, and absorb the operating costs in the economic structure of the proposed housing, recreation, or other development. This would avoid the bottleneck of turnstiles and the problems of change booths and/or token dispensers.

The systems described above, except for the bus shuttle, are suitable for automated operation, which would further reduce the need for operating personnel. Stations would still require transit police for security reasons and to handle any unforeseen operating mishaps.

A *moving sidewalk* of the type used for intra- and inter-terminal transport in the international airports at Los Angeles, San Francisco, and Montreal, would consist of a continuous 42-inch wide rubber belt mounted between fixed balustrades. The belt would move at a speed of 110 to 120 feet per minute and could handle up to 7,200 persons per hour per direction. The entire system would be fully automated and does not require operating personnel.

Moving sidewalks could be easily installed in attractive enclosures built either on grade or on simple supporting structures. The walls and roof of the heated and air-conditioned enclosure could be fabricated of clear materials giving the passengers a full view of the area.

The capital cost of a moving sidewalk system between the 63rd Street subway stop and the vicinity of the Welfare Island Bridge would be roughly \$12.5 to \$18.7 million.

New West Channel Crossing

A new Welfare Island-Manhattan crossing could theoretically lie below the shipping channel, within it, or above it. Any new access lying below the shipping channel appears to be excessively expensive, due to the need for a tunnel. Within the west shipping channel the U.S. Army Corps of Engineers prohibits any structure up to 135 feet above mean high water. Only shuttle vehicles with no permanent guideways could operate within this area.

In addition, such shuttle service would have to yield the right of way to all the river traffic in the channel. Therefore, within the shipping channel, only water taxis and ferries, air-cushion vehicles and ground effect machines, and suspended capsules and gondolas could be considered. Due to the short length of the crossing, vehicles of this type could not accelerate to a reasonable speed. Service would be slow, with a low passenger-carrying capacity, and potentially unreliable because of conflicting ship traffic. Although these forms of transportation do not appear capable of providing high capacity transportation economically, some form of water transport may be a desirable adjunct to future development.

Transport modes that operate above the West Channel have the problem of descending to the island from a clearance height of 135 feet. It is possible that a carveyor system, such as described above, could be installed in the vicinity of the Queensboro Bridge. This is one of the few systems capable of making a right angle turn onto the island and negotiating the descent in a reasonable distance. If the on-island transport system were to utilize carveyors,

it would be possible to provide a loop that would traverse the Queensboro Bridge and would deposit passengers at a terminal in the vicinity of 59th Street and 2nd Avenue. Since carveyors represent the most expensive form of on-island transportation, this solution must be investigated further.

In summary, several types of on-island transportation appear feasible. However, the technical feasibility and economic practicality of an additional link between Welfare Island and Manhattan cannot be established at this time.

Appendix D

RECREATION

Recreation can mean many things to many people—attending a movie or outdoor concert, walking through a museum or exhibition, attending a sports contest, riding on a roller coaster, or simply sitting in a park. Recreation serves a number of purposes: relaxation, amusement, physical fitness, socialization, and education. These objectives are now met in a variety of ways in New York City and to some extent each can serve as a substitute for another. Generally, those demands which can produce a profit through user fees have been supplied by the private sector, while those which cannot have been supplied by public agencies.

This section discusses the needs of New York City for both additional public park land and for better commercial recreation facilities, and evaluates the extent to which these needs can be usefully met on Welfare Island. It concludes that parks alone would not make the best use of this land, but that several types of recreational facilities, including both parks and commercial recreation, could be usefully included in a multifaceted development plan.

Public Parks

New York City's Park Needs

In 1960, New York City had one acre of parkland for every 219 citizens; Boston had one acre of parkland for every 258 citizens; Detroit had one acre for 286 citizens; and Chicago had one acre for 532 citizens. In 1926, New York City had 10,482 park acres. By 1960, this had grown threefold to 35,463 acres, while the population had increased by only 20 percent. These figures alone do not give an accurate picture, however. In 1966, for example, 6,452 acres of New York's parklands were undeveloped, 9,777 acres were under water, and 1,288 acres were wetlands.

There is general agreement that the recreational needs of New York City are not now being met nor are they likely to be met in the foreseeable future. New York City is not unique in this respect; lack of adequate recreational and park facilities is a common characteristic of densely populated urban centers.

The National Recreation and Parks Association estimates that \$1.1 billion in capital expenditures would be needed to bring New York City up to NRPA standards based on providing standardized blocks of facilities for prescribed numbers of people. The City Planning Commission estimates that \$385 million will be required over the next 16 years

merely to bring underserved areas of the city up to the present citywide averages for recreational facilities. The City Planning Commission states that their standard, the current citywide average ratio, is only intended as a rough measure of relative deficiency in order to assign priorities, and is not a measure of over-all need.

The use of such standards, however, either for the city as a whole, or for comparing areas within the city, is open to question. In practice, no satisfactory method seems to exist for the measurement of recreational needs, or even to approximate recreational desires. Most experts agree that recreational needs vary according to the characteristics of the user groups and that no single set of standards can be applied to the heterogeneous population of New York. Varying ages, ethnic backgrounds, and mobility radically change the desirability of specific activities. Programming, leadership, and security greatly affect parks' use. In addition, the layout, development, and accessibility of a particular park may limit or enhance its utilization.

Rather than use some arbitrary standard of park acreage per thousand population, some experts feel that the way to determine New York's park needs is to design city-wide recreation programs, determine the facilities needed, and then locate those facilities to best advantage. Such program implementation is not now practiced.

Three separate city agencies, the Department of Parks, the Board of Education, and the Housing Administration, conduct substantial separate recreation programs with little coordination. Even the expansion of the Department of Parks into a new superagency, the Parks, Recreation, and Cultural Affairs Administration, still leaves three agencies to coordinate. No comprehensive city-wide recreation plan exists, so that an adequate evaluation of New York City's park needs and Welfare Island's role in relation to them and to existing facilities is not now possible. Planning for a specific park can only be done in a very restricted fashion, with only impressionistic data.

Types of Parks

The design of a park on Welfare Island can determine the probable areas from which users would be drawn. Welfare Island could be designed as one or a combination of types:

- a major regional park for all of New York City;
- a community park basically oriented toward the Manhattan shore;

- a community park to serve the Queens shore;
- a recreational resource for the existing hospitals; or
- a neighborhood park, if a portion of Welfare Island were used for housing.

Major regional parks are located to take advantage of special topography and provide open uncluttered space for leisurely family use on weekends and holidays. They generally have over 100 acres and presently account for 70 per cent of the city's total park acreage. According to Parks Department records, most of New York's regional parks consist principally of athletic fields and courts, paths and walks, playgrounds, and large areas of open space. According to their attendance figures, these parks also have the lowest density of utilization in the city's system, approximately 4,000 persons per year per acre. All sources, including the Parks Department, however, consider these utilization rates to be highly imprecise.

Welfare Island's location would permit it to be part of a regional waterfront recreational complex joined by a water-borne transit system. A string of parks along the waterfront has been considered by many as a significant contribution to the attractiveness of New York. However, such proposals are only in very preliminary stages and include few specific facilities. A number of waterfront parks now exist in New York, but many have low utilizations (Ward's and Randall's Islands). Most experts feel that a successful waterfront recreation complex will require more major attractions than are now proposed.

Community parks are smaller than regional parks, averaging about 10 acres, and are meant to provide recreational facilities for groups living within a radius of about one mile. Like the regional parks, they consist principally of athletic fields, courts, walks, and playgrounds with some "unused" open space.

Adjacent communities in both Manhattan and Queens are lacking in these facilities, when measured against the city averages, but the probability of utilization by residents of Queens is likely to be much greater because of easier access.

The Welfare Island Bridge already provides a connection to the Queens shore. The Queens community has two existing parks opposite Welfare Island, Queensbridge and Rainy Parks. According to attendance records, 750,000 people use Queensbridge Park annually, slightly above the city-wide average for this type of park. Queensbridge and Rainy Parks are both better located to serve the community than Welfare Island, which is one-half mile from

the nearest housing concentration. The Parks Department feels that adequate land exists within the Queens community to meet their park needs now and in the foreseeable future. Correspondingly, they assign a low priority to a community park on Welfare Island.

There is a need for recreational development of land in the areas of Coler and Goldwater Hospitals to serve the needs of their patients. Primarily because of the lack of development of such facilities, few patients have the opportunity to go outdoors. Staff and patients at both hospitals have expressed a desire for specially designed facilities. A multipurpose court for basketball and badminton, shuffleboard courts, horseshoe pits, picnic areas, chess tables, and wheelchair paths are examples of facilities that would benefit ambulatory adult patients. An outdoor swimming pool and play area were cited as needs for the children hospitalized at the institutions. Certainly, these needed facilities could be provided in relatively small areas surrounding both hospitals.

In addition to recreation facilities for the hospital patients, those connected with the hospitals want development that would bring more people to the island. Development of the island as a park and recreation area, as well as other types of uses, would accomplish this.

Park Activities

Distinctions between regional, community, and even hospital-oriented parks are less important than an analysis of the activities they would include. The major land using facilities are the same in all three possibilities. The major land using facilities in conventional parks include open space, athletic fields, and swimming pools. Almost all other park activities can be accommodated on a relatively small amount of land. For example, a narrow strip of land around part or all of Welfare Island could be devoted to bicycle (wheelchair) and pedestrian walks, picnic areas, sitting areas, gardens, and even playgrounds or tennis courts. Providing these smaller facilities on the perimeter of Welfare Island would not substantially interfere with other usages.

Athletic Fields – The second principal land users in parks are athletic fields; primarily for baseball, softball, and football. Other sports, such as basketball and tennis, require large areas only if a number of courts are put in. The area now occupied by the City Home, Metropolitan Hospital, and the Fire Department Training School could accommodate 20 baseball diamonds or 30 football fields. Cricket, lacrosse, and field hockey could be played on the same fields in the off-season of the principal sport, so that use ten months a year could be obtained.

The demand for athletic fields in New York is apparently bottomless, but the accessibility of Welfare Island, however, does present a problem. According to the Parks Department, similar fields located on Randall's and Ward's Island are utilized a maximum of only two hours a day on school days and 10 to 12 hours a day on other days, with only 80 per cent of the days really being usable because of weather conditions. Presently there is no coordinated system for programming the use of athletic fields to insure full utilization. Such a system may exist within the near future, so that use by school groups, which greatly need athletic fields in Manhattan, and use by the nearby housing projects could be programmed.

The benefits of athletic facilities are not limited to the players. Spectators are quite common at many of these contests, particularly those held on weekends or involving school or Puerto Rican teams. Such events often become occasions for family outings. Nevertheless, the principal users of park athletic facilities come from only one segment of the population, men between the ages of 10 and 40.

Swimming Pools — Most public pools have been considered to be community functions, and have an optimum size of between 10,000 and 30,000 square feet, serving between 30,000 and 180,000 people. Less than a third of the communities in New York, 20 out of 74, have swimming pools, and none exist near Welfare Island. Lately, however, the Parks Department has been concentrating on smaller neighborhood pools within housing concentrations.

Used by almost all segments of the population, swimming pools are among the most popular park facilities, admirably serving as an area for exercise, relaxation and socialization. Considerable pressure exists to build more pools, particularly in ghetto areas, and people will apparently travel some distance to use one. Pools are highly seasonal, with an effective use of only three months. According to the City Planning Department's figures, however, their intensity of use during that period produces a cost of only \$0.50 per user hour for construction and \$0.15 per user hour for operation. Despite a longer season, covered pools reportedly cost more per user hour.

Not using as much land as either open space or athletic fields, a swimming pool on Welfare Island would occupy a maximum of only a few acres even with its ancillary facilities.

Funding

For many years, recreation planning concentrated on acquiring parkland and constructing conventional facilities. Present constraints on recreational programs in New York are in the operating budget, however, rather than the capital budget. Unutilized land does exist within the city park system and, according to the Parks Department, other projects would have a higher priority than Welfare Island for funding. Several different governmental funding sources exist, including the City Parks Department, the City Board of Education, and the State Parks Department, and each has a different system of priorities.

The New York City Parks Department has little interest in Welfare Island for a conventional park. Operating expenses are their principal problem and they are encountering difficulties in running what they now have. The Department places rehabilitation of existing parks as its first priority, followed by the development of regional parks on existing land, and the development of neighborhood and community facilities, particularly indoor facilities. Regional projects now include development of Breezy Point as a Jones Beach type of park, the development of a multipurpose park and sport complex in Flushing Meadow, the Staten Island Green Belt, and the redevelopment of the Coney Island area. These priorities may be subject to change, but they must be considered in projecting any future use of Welfare Island for parks.

The Board of Education also builds recreation facilities and Welfare Island could be used for new school athletic fields. Few of the schools in the area have fields and little land exists for new ones. Manhattan's schools are particularly in need of this facility and the Board of Education now considers 30 minutes commuting time to play areas to be acceptable. With a new subway station, Welfare Island could be a possible location. The Board would need further study before it could indicate a definite interest. A capital grant would have to be obtained, since the Board of Education does not now have development funds for a new athletic facility.

In addition to city funds, the utilization of state resources may now be possible. New York City has just become the 11th State Park District. Although funds are apparently available, none have yet been spent within this district. Welfare Island is one of six state parks within New York City suggested by the state, although it is apparently rather low on their priority list. Nevertheless, if the city presented a program of use, the state has indicated that it is willing and able to build facilities on Welfare Island. Such an arrangement would entail transferring the land affected to state control.

Summary

A conventional park appears to be inappropriate as a principal use of Welfare Island. Open space alone would be difficult to justify without other major facilities to draw people to the island. Alone, or in combination with other park usages, open space would probably not be utilized to the extent needed to justify its exclusion of other usages. Similarly, athletic fields would seem to have too little and too narrow a utilization, even under optimum conditions, to justify their use of this land. Although athletic fields are needed in New York, and may be utilized on Welfare Island, other needs would appear to be more important and involve more segments of the population. A swimming pool would be a desirable facility, but located in the wrong place to serve the Queens community.

As a part of Welfare Island's development, however, open space parks appear to be feasible. It may be wise to reserve a strip around the island for park uses. Many different park activities could be accommodated in such a strip and the most important aspect of the island, its river view, made available to the public.

Commercial Recreation

Commercial Recreation in New York City

Probably few cities offer a wider range of commercial recreation opportunities than New York. The recreation and tourist industry is the third largest industry in New York and provides one of the principal attractions to both residents and visitors. Without its theaters, restaurants, nightclubs, museums, concert halls, and sports stadiums, New York would undoubtedly have little of the excitement or glamour it now projects. As income and leisure time increase, recreation will play an ever-increasing role in the city's life and will be particularly important to its continuing economic vitality.

Commercial recreation facilities include:

- theaters, concert halls, opera houses, and cinemas;
- restaurants and nightclubs;
- exhibition halls, museums, and art galleries;
- sports stadiums and arenas; and finally,
- amusement rides and games.

Many of these facilities are experiencing economic difficulties in New York. Concert halls, opera houses, and museums have required substantial subsidies for many years. Theater economics now also appear to be somewhat precarious and the city has recently instituted several zoning changes to give some indirect support to the construction of new theaters.

Rising land values and increased accessibility to more attractive facilities elsewhere have almost eliminated amusement rides and games in New York City, with only vestiges of this kind of recreation remaining at Coney Island.

Only cinemas, restaurants, nightclubs, and sports facilities seem to be able to effectively meet the market demand without economic problems.

In addition to their effect on New York's image as a future office and residential location, recreational activities are also a resource for existing residents, rendering the city a more attractive place to live and work. Activities located close to the easily-accessible city center provide leisure time enjoyment to a very large number of people. Midtown Manhattan is the major focal point for 1.7 million people living on Manhattan Island, another 6 million in Brooklyn, Queens, and the Bronx, and a total of 15 million people in the New York Metropolitan area. As many recreation areas are forced further from the city core by more profitable land uses, additional recreation facilities on Welfare Island would serve the densely populated city center without requiring an extensive "journey to play."

An attractive recreation complex could also be a resource to the economy of New York City, attracting money into it that would not otherwise be spent there. This effect is most obvious with World Fairs and has served as the principal justification for considerable municipal investments in them. This effect has also been evident with major new theme parks. The growth of hotel and restaurant businesses in the vicinity of Disneyland in California led the Disney organization to obtain 28,000 acres around their new tract in Florida in order to profit directly from this induced activity. Although most tourists do not go to Denmark just to see Tivoli Gardens, many may lengthen their stay because of it.

New York's Convention and Visitors Bureau estimates that the average visitor, tourist or businessman spends about \$30 a day in New York. This money, in turn, generates additional economic activity in the city equal to several times itself. Money spent in the city by suburbanites or city residents on recreational activities that would otherwise have been obtained outside the city has a similar, though lesser, multiplier effect.

This increase in economic activity leads to an increase in employment. A major recreation complex may itself employ several thousand workers. Disneyland employs 5,500 people, and Montreal's extension of Expo '67, *Man and His World*, employs 5,000. Although more difficult to estimate, the induced secondary economic activity also adds to the city's total employment. It is estimated that three full-time jobs are created for every 1,000 tourists that stay an additional day in New York. This added employment, both within the recreation complex and in the related tourist industry, is predominantly low-skilled, a significant fact with the present emphasis on anti-poverty programs. Furthermore, the seasonal nature of many recreation complexes is well suited to the demand for summer jobs in New York.

Any increase in economic activity and employment also increases tax revenues. Commercial recreation pays income taxes, real estate taxes, sales taxes, and business taxes, yet most recreational activities create little additional demand for municipal services.

Commercial Recreation on Welfare Island

A recreation complex could utilize the special advantages of Welfare Island—its island setting, city core location, and spectacular Manhattan view—to serve a large number and variety of people. Recreation is one of the few usages that would make this city-owned land available for a city-wide user group. Since maximum land rental is not a necessity, a recreation development is an excellent means of encouraging the recreation industry and placing an economic and social resource close to the city center without encountering the political problems of a direct cash subsidy.

Although development of Welfare Island is not expected to have a major effect on the redevelopment of adjacent areas, a large recreational attraction might have more beneficial effects than other usages. It could help generate a waterfront recreation system, and might create a demand for a ferry linking the United Nations, Welfare Island, Carl Schurz Park, and Randall's Island.

Two parks and the Ravenswood power plant, which occupy much of the Queens river frontage, would probably impede significant redevelopment on the Queens shore for some time. Nevertheless, the proposed complex would provide recreational opportunities for any present or future Queens community. In addition, since its peak transportation demands would occur in the afternoon and night, it would not take away rush-hour subway capacity from Queens and it would not inhibit any residential redevelopment in Queens that required this capacity.

Although a recreation complex would not interfere with the operation of either Coler or Goldwater Hospital, it would not provide one of their principal goals, a complete community around them. Since many experts feel that these hospitals should be located in a community atmosphere, their isolation would continue to be of some concern. Nevertheless, a recreation complex would bring more life to the island and would provide considerable activity easily reached by more ambulatory patients. Programmed for use at underutilized time, the complex could also be a recreation resource for the handicapped from all over the city, if the necessary special buses and attendants could be provided.

Aesthetically, a recreation complex presents interesting possibilities and problems. A generally low and park-like appearance appears both desirable and dictated by the nature of its activities. Considerable design skill and over-all control would be needed to avoid a chaotic and garish appearance. On the other hand, the view of a well-designed complex, like Montreal's Expo, could become a major asset to the city. With the importance of the East Side drive, the Triborough Bridge, and the Queensboro Bridge as entries to the city; the East Side of Manhattan as a prime residential area; and the Queens shore as a future residential area, an attractive design for any Welfare Island development is very important.

Welfare Island appears to be a good location for a recreation complex. Almost at the center of the transportation systems, it is well located to attract residents of the entire metropolitan area. Close to most of New York's hotels and major tourist attractions, it could serve the tourist trade better than any location except midtown Manhattan. The addition of a subway stop on the island, and perhaps some form of transit over the Queensboro Bridge directly into Manhattan, could make Welfare Island accessible to all major user groups.

The island nature of the site, like that of Montreal's Expo, is a major advantage for recreational usage. The spectacular Manhattan view and possible waterfront activities are attractions in themselves. At the same time, the island site is apart from the city, which allows a different atmosphere to be created.

Selecting the type and scope of recreation activities would pose major problems. It makes little sense for the City of New York to build recreation facilities on Welfare Island that merely compete with existing midtown facilities. Indeed, using city-owned land for purposes that seriously conflict with established private enterprise would be unwise. In turn, choosing and designing facilities on Welfare Island that would supplement those of the midtown area poses a difficult question in market analysis. The disappearance of older amusement park activities from the New York area and the popularity of new versions of

them in other cities may provide part of the answer. Although any new activity that would attract a consumer's recreational dollar may take some business away from the midtown area, the extent to which amusement activities would attract people who would otherwise have gone to the theater or opera is questionable.

With the sophistication of the New York market and the range of recreational opportunities available, the actual design of a recreation complex on Welfare Island will not be easy. A proposed project should be able to support itself financially without considering external economic benefits to the city, achieving a mix of activities that will appeal to all the major user groups in the area.

The design problems are further complicated by difficulties in staging construction. It would be necessary to design and construct a first stage large enough to attract sufficient people to insure a project's success.

Problems of organization and management should not be overlooked. The recreation business requires special entrepreneurial, design, and management talent that is hard to find. It would be necessary to retain some degree of city control over any recreation complex constructed on Welfare Island. This may present conflicts with entrepreneurs willing to fund and manage portions of such a project. It should be possible, however, to devise a management framework that could exercise sufficient design and management control, while allowing individual entrepreneurs some scope in designated areas.

Recreation complexes built by private enterprise are designed to provide entertainment and amusement at a profit. For a publicly sponsored complex, however, these goals may be inadequate. Certainly an economic profit cannot be a principal goal for any public enterprise, although there will doubtless be few objections if the city does realize a financial return. In a very similar situation, the city of Montreal, now operating Expo '67 as a permanent recreation attraction, feels that their objective is to provide an area for amusement, education, entertainment, and culture. Their venture has had social, economic, and political success, and a recreation complex on Welfare Island might be built around the same set of objectives.

The following facilities on Welfare Island could serve a variety of user groups without undue competition with existing midtown facilities.

- short term static exhibitions
- audio-visual exhibitions
- mixed media entertainment
- exhibition rides and tours
- amusement rides
- amusement games
- special gardens and zoos
- areas of free entertainment

This complex could principally consist of specially designed rides and audio-visual displays used for both educational and entertainment purposes. According to the management of Montreal's *Man and His World*, their most popular attractions are their audio-visual exhibits and shows. The popularity of rides conveying people through an attractive environment or display is well illustrated by the success of new theme parks, which make them one of their principal attractions. The most popular exhibits at New York's 1965 World's Fair were designed along much the same lines. Ever-changing static exhibitions, amusement games, areas of free entertainment, and extensive gardens could complete the major activities of this complex. Although a few restaurants and nightclubs, each with a different flavor, would exert considerable appeal, these facilities should probably be fairly limited due to their abundance in midtown Manhattan.

The real attraction of a recreation complex extends far beyond its actual activities. The architectural skill with which Expo '67 was executed is cited by its present management as one of its major attractions, as proven by the people lined up outside of the American Pavilion on an uncomfortable, rainy day this summer, to enter what is now an aviary and a series of gardens. Beyond the architecture, however, is the distinctive atmosphere that the total complex projects, its activities, design, crowds, and over-all life. Part of this atmosphere in a theme park comes from its emphasis on a unified design scheme. Much of

the atmosphere, however, is created simply by large numbers of people enjoying themselves. Attracting sufficient numbers of people to the island to create this atmosphere therefore becomes a prime objective.

Feasibility

It appears from a preliminary analysis that a recreation complex organized along these lines would be feasible on Welfare Island. It should be emphasized, however, that the analysis so far consists of informed guesses. No final judgment on the feasibility of this project can be made at this stage. The examples of Freedomland and the World's Fair of 1965 are enough to cause some caution, though the failure of each can be explained. Freedomland cost too much for too little, and had high maintenance costs, and a poor location without public transit access, and the World's Fair simply could not attract enough people in two years to justify its huge capital costs.

Further economic and design study is, nevertheless, required before the feasibility of the Welfare Island project could be definitely established. Since it will take almost seven years until any major new use of Welfare Island could function properly, because of the subway installation, a tentative land use decision at this point could be modified if later study proved it desirable.

Final Comment

Several suggestions have been made over the years for creating a "Tivoli Park" on Welfare Island. In one sense, the scale, atmosphere, and historical character of this 20-acre park in the heart of Copenhagen are unique and could not be exactly duplicated elsewhere. In another sense, however, Tivoli's combination of public park, public entertainments, restaurants, and fee-charging amusements could be applied elsewhere. It is this combination that seems particularly appropriate for a Welfare Island recreation center, with adjustments in scale and density that are appropriate to New York City.

The public image of a recreation center on Welfare Island will be crucial to the center's success or failure. To a minor extent, the image will be the result of successful advertising. Most important, however, will be the skill with which the various elements of the center are selected and arranged, and the sophistication and elegance shown in its design.

The center must be conceived and developed to serve all of the people of New York. This means that the non-admission charging areas must be designed with adequate space and the highest level of taste and skill. All of the design must permit an orderly deployment of very large numbers of people and maximize security for both the visitor and the center itself, so that the island can remain a place where young and old, healthy and infirm can all enjoy themselves with complete serenity.

Due to the transportation arrangements, no one will come onto Welfare Island merely in the process of getting to some other place. There must be a conscious decision to visit the island, resulting from a feeling that it would be a desirable place to visit. Due to the island's high visibility, a successful recreation center must be designed to convey an attractive appearance—not only initially, but over the years. Exteriors that will become grimy and streaked should be avoided. Interior surfaces should be not only attractive, but easily maintained. Extensive use of greenery and natural stone on the upper surfaces will help to prevent premature aging.

Appendix E

HOUSING

New York City needs more good housing (and less bad housing), and Welfare Island has been frequently mentioned as a desirable site for a major housing development. This section examines both the city's needs and the realistic possibilities of using Welfare Island to meet those needs.

Past proposals have served to crystallize public opinion either for or against the idea of large-scale housing projects on the island. This section does not re-examine or evaluate past proposals, but does take a fresh look at the problem, using both information previously available and new information developed in the course of these studies.

First we examine the housing that is available in New York City now, the extent to which this housing meets the present needs of the city's population, and possible future trends in housing construction and demand.

Next we examine the problems and opportunities that Welfare Island offers as a housing site. This examination shows that a substantial housing project could be constructed on Welfare Island, and that housing on the island would have several important special attractions and some special liabilities.

The central location and waterside setting of island housing would be one of the special attractions. In addition, the ready availability of land, already owned by the City of New York and largely unused or underused, would remove one major source of delay, community resistance, and cash expense normally involved in a housing project.

More good housing is needed in New York for persons in all income levels. Most housing experts consulted agree that (1) the optimum economic use of Welfare Island would be exclusively for luxury units and that (2) such a development without any middle or low-income housing would be politically and socially infeasible.

No practical housing project on Welfare Island could provide enough units to meet more than a very small portion of the city's over-all needs. Island housing would involve problems of access, parking space, and on-island transportation. The partial isolation of island housing would emphasize the importance of providing sufficient commercial and public facilities to adequately serve a new community.

The most important question, however, is not whether a successful housing development could be placed on Welfare Island. The real problem is to determine what combination of uses—housing or other—will best serve the total New York community.

Housing in New York City

Introduction

There are approximately three million housing units in New York City, ranging from farm houses on Staten Island to mansions in Manhattan, and from single room occupancies (SROs)* to multilevel apartments with a dozen or more rooms.

Most of this housing is old, and most of the older housing is not being adequately maintained, due to a variety of economic and sociological causes.

Sixty-eight percent of all housing units in the City of New York enumerated in the 1960 census were constructed prior to 1929. Of this group, 828,600 were in new-law multiple dwellings erected between 1901 and 1929, and 335,100 were in old-law tenements erected prior to 1901**.

Owner-occupied housing units, including cooperative apartments, increased from 22 percent of the total housing supply in 1960 to 24 percent in 1965***. However, rental housing still forms the overwhelming majority of New York City housing.

One- and two-family structures comprised only about 28 percent of the total supply in 1960, about the lowest proportion of any major city in the United States. In that same year, New York City had the highest proportion of rental units in structures of 20 apartments or more—a total of 1,135,000 or 55 percent of the total rental inventory.

There is widespread disagreement on the measurement of housing quality. The 1960 census classified housing units in three categories:

- sound,
- deteriorating (requiring repairs to items such as foundations, walls, roofs, floors, stairways or ceilings), and

*SROs are defined as one or two-room units whose occupants share or lack one or more of the following: toilet, bath, or kitchen.

**1901, the “new-law” Tenement House Act was passed regulating construction of new tenements and improvement of existing ones. In 1929, the New York State Multiple Dwelling Law superseded the 1901 law as the basic New York City legislation regulating housing standards.

***Most statistics in this paper are drawn from the 1960 Census of Housing. In some cases, later information is drawn from the 1965 Housing and Vacancy Survey or other sources.

- dilapidated (in such bad condition as to endanger the health, safety, or well-being of its occupants).

In addition, the census noted those units that lacked or shared hot running water, a toilet, and a bath or shower.

The 1960 and 1965 surveys indicated the following division of housing units in New York City by quality:

Classification	Numbers of Units	
	1960	1965
Sound, with all plumbing facilities	2,205,000	2,244,000
Deteriorating, with all plumbing facilities	277,000	370,000
Substandard (dilapidated or without adequate plumbing facilities)	276,000	214,000
All housing units	2,758,000	2,828,000

The overwhelming majority of substandard housing was in older rental units and about half of the substandard units were occupied by white households. However, because New York's population is still predominantly white, the percentage of white families in substandard housing was much lower (6 percent) than the percentage of Negro and Puerto Rican families in substandard housing (each 22 percent).

Although the details of New York's housing problems change from decade to decade, and current predictions for the future of housing in urban core areas are generally gloomy, it is important to realize that most large cities, including New York, have had major housing problems and slum areas since their early history. New York City's first housing law in 1648 dealt with inadequate chimneys that caused fire hazards, and in the late 1700's a report commented on the epidemics caused in part by widespread unsanitary living conditions. Dickens, in his *American Notes*, published in 1842, commented extensively on New York's slums. In the late nineteenth and early twentieth centuries, the tenement slums inhabited by successive waves of immigrants were widely regarded as breeding grounds of physical and social decay.

Traditionally immigrants into the cities have largely come from the economic and social lower classes, and there has always been some movement to the cities' fringe of some of those who have climbed a step or two up the economic and social ladder. However, several significant changes have occurred in this process in recent years:

- Earlier immigrants were largely (but not entirely) Europeans and recent immigration has consisted of Negroes and Puerto Ricans.
- Outmigration from the central core—which formerly took families to 14th Street, or to farmland in Brooklyn, or to the Upper West Side, or the Bronx or Queens—now takes the emigrants outside the city limits to New Jersey, Westchester, Long Island, or Connecticut. This change in destination has had a significant effect on city finances.
- The rate of outmigration, especially of white middle class families, has increased dramatically in recent years.

Between 1950 and 1960, census figures showed a decline in New York City's population for the first time, as in-migration of Negroes and Puerto Ricans was exceeded by out-migration of white families. (Table E-1) The greatest population decline was in Manhattan, where the resident population dropped in the 1950's by 261,800 to reach the lowest point since 1900. The net populations of the Bronx and Brooklyn have remained relatively stable for several decades, while some net growth is occurring in Queens and Richmond. (Table E-2).

Recent studies have indicated that census figures tend to significantly undercount urban minority groups. However, the census figures do clearly illustrate the population trends.

The middle class exodus from the cities to the suburbs is a feature of almost all large American cities. The variety of causes include an aversion to increasing crowding, noise and dirt; the desire for a more convenient outdoor play space for children; vague or specific fears for physical safety; dislike for new racial or ethnic compositions; and a search for a better educational system for one's children.

Children figure very importantly in the decision to move to the suburbs. Singles or young marrieds are frequently attracted by the excitement and scope of city living, but feel that the central city is a difficult or undesirable place in which to raise children.

Table E-1
Population Changes in New York City

1940 — 1950 —1960

(From U. S. Census Figures)

	White	Non-White	Puerto Rican	Total
1940 Census	6,907,300	470,900	76,800	7,455,000
—Natural increase	472,200	67,800	7,300	547,300
— Migration	- 489,400	217,300	161,800	- 110,300
1950 Census	6,890,100	756,000	245,900	7,892,000
—Natural increase	371,700	184,100	151,900	707,700
— Migration	-1,208,800	176,400	214,800	- 817,700
1960 Census	6,053,000	1,116,500	612,600	7,782,000

One study of urban redevelopment areas in major cities across the country indicated that only six percent of the upper-income families in the development have children, half of these children are of preschool age, and a large majority of the school age children are boys. The conclusion is that families who have children (particularly girls), who can afford it, and who are not blocked by ethnic barriers, overwhelmingly choose not to live in central urban areas. The cities are increasingly left with the childless and with families who have limited mobility, either for economic or ethnic reasons.

Table E-2
Population Distribution by Borough
for New York City 1900-1960

(From U. S. Census figures)

Year	New York City	Manhattan	Bronx
1900	3,437,200	1,850,100	200,500
1910	4,766,900	2,331,500	431,000
1920	5,620,000	2,284,100	732,000
1930	6,930,400	1,867,300	1,265,300
1940	7,455,000	1,889,900	1,394,700
1950	7,892,000	1,960,100	1,451,300
1960	7,782,000	1,698,300	1,424,800
	Brooklyn	Queens	Richmond
1900	1,166,600	153,000	67,000
1910	1,634,400	284,000	86,000
1920	2,018,400	469,000	116,500
1930	2,560,400	1,079,100	158,300
1940	2,698,300	1,297,600	174,400
1950	2,738,200	1,550,800	191,600
1960	2,627,300	1,809,600	222,000

These forces tend to leave the city with a small affluent group which, as a minimum, pays its own way, and a large low-income group which places heavy demands on public funds for education, welfare payments, other municipal services, and housing.

Rent control has had an effect worth noting on population shifts within the city. Instituted at the end of World War II to prevent rent gouging in a tight housing market, rent control covered all of New York City's rental units in 1945, which then constituted 78 percent of the city's total housing supply. These percentages were reduced over the years as new never-controlled units were constructed and some units were decontrolled or demolished. By 1965, however, housing units under rent control still constituted 62 percent of the rental housing and 48 percent of the total supply.

Rent control thus continues to have a major effect on the over-all housing market. It has been asserted that rent control is responsible for the poor maintenance and deterioration of much of New York City's housing, although short-term speculation and lack of competition in a tight market are probably just as important.

Rent control has had another effect worth noting. It has helped to retain in their old neighborhoods (and perhaps in New York City) many middle-class households that could not afford to move to new noncontrolled apartments. As more new noncontrolled apartments are built and more controlled apartments are retired from the inventory, the effect of rent control on stabilizing population will probably diminish.

As the number of people in New York City declines, the number of households is rising. This apparent paradox is caused by a decrease in average household size. Between 1940 and 1960, while the total number of households increased by 30 percent, the number of households with five or more persons declined 20 percent, and the average household size decreased from 3.3 persons to 2.5 persons.

In recent times, moreover, the number of one-person households in the city has increased dramatically. In 1940, they formed only eight percent of the total households; in 1960 they had increased to 19 percent; and in 1965 they reached 23 percent. More than 70 percent of these single householders are 45 years or older, and 30 percent are 65 or older. This distribution is partly caused by the increased percentage of aged persons in New York's population. The number of persons 65 and older doubled between 1940 and 1960. By 1960, they constituted over ten percent of the population and tended to have low incomes and to spend a comparatively high percentage of their incomes on housing.

Recent Construction Trends

Recent housing construction in New York City has been principally influenced by:

- the new zoning ordinance that went into effect on September 15, 1961;
- rising costs of construction and maintenance caused by higher material costs, higher wages, and, most importantly, the higher cost of money; and
- marketability, which is influenced heavily by neighborhood influences, imbalances in supply and demand, and rising prices.

The new zoning ordinance had the effect in many areas of reducing the number of units allowable on a given piece of land. Builders were faced in 1961 with accepting this reduction or building in advance of demand. They chose the latter course.

During the 15 years from 1947 to 1961, an average of 31,000 new housing units were completed annually. During 1961, just prior to the adoption of the new zoning ordinance, plans were filed for approximately 180,000 new units.

Construction during 1962 to 1965 jumped to an average of 52,000 units annually as this backlog of applications was worked off. Almost all of the construction during this period consisted of units built under the old ordinance.

This four-year building spurt added a total of 208,700 units, with a net increase of 186,000 units in the city's total inventory, after deducting units removed from the market during this period. Estimated net new household formation in this period was about 116,000. This surplus of 70,000 units created a glut in the housing market which was felt until quite recently.

Most builders prefer to construct housing projects consisting of several hundred units as a minimum, in order to take advantage of economies of scale. By requiring larger sites for a given number of units, the new zoning ordinance magnified the already difficult problem of assembling adequate housing sites.

Rising costs of construction, currently escalating at six percent per year and projected to rise as high as nine percent annually, have boosted even low and middle-income apartment construction to \$25,000-\$30,000 per unit, with one recent Mitchell-Lama project going as high as \$39,000 per unit. In the latter case, a "middle-income" family with an annual income as high as \$32,000 would be eligible to rent this \$50-per-room publicly-assisted housing. If privately constructed, this project would rent for about \$100 per room.

Maintenance costs are climbing more slowly than construction costs, but still increase at least three to four percent annually.

Rising interest costs, both for conventional financing and for tax-exempt bonds used in publicly-assisted housing projects, have added an average of \$10 per room per month to new rental housing within the last three years.

This financial squeeze has effectively eliminated privately constructed and financed new housing in New York City from the low-income market completely and from almost all of the middle-income market, except for six-story semifireproof structures in outlying areas and one and two-family structures on scattered sites.

Marketability is strongly influenced by neighborhood, particularly for middle and high income families who tend to have more options, including the frequently exercised option of moving out of the city.

Extraordinary premiums are paid for the convenience of living in the most desired areas of Manhattan. Cooperative apartments on the upper East Side may sell for twice the price of similar units in areas across Central Park.

Public acceptance of certain areas as desirable involves feelings of security (including the lack of present or projected disturbances caused by changing neighborhood ethnic patterns), adequate transportation and convenience shopping, and an element of faddism. Most people prefer a neighborhood in which the incomes of the other residents equal or surpass their own. The availability of particularly good architecture and/or construction seems to play a surprisingly minor role, and the generally low level of expectation in these areas, coupled with a tight market, has led to the unnecessarily dreary appearance of most housing in New York City.

The demand for housing in New York City continues to exceed the supply by a sufficient margin to insure very low vacancy rates* in spite of high prices on new housing. The demand is not indefinitely elastic in all areas, however, as evidenced by major softening of the luxury housing market caused by overbuilding during 1962-1965. In the last few years, in fact, a major dropoff occurred in privately-financed (i.e. luxury) construction (Table E-3), although the rate is beginning to pick up and the number of completions is expected to rise in 1969.

Lack of prospective tenants, however, is not a main reason for lack of construction. The principal causes are:

- lack of readily available sites (Although there are many areas of underutilized land in New York City suitable for housing, even in Manhattan's Upper East Side, the cost, delay, and difficulty involved in site assembly have inhibited the use of this land in most cases.);

*Vacancy rates vary from less than one percent for units for sale (including co-ops and condominiums) to an average of about three percent for rentals. The national average rental vacancy rate is about 7.7 percent.

Table E-3
Privately-Financed Full Taxpaying New Units
Completed in Manhattan 1958 - 1968

Year	Privately-Financed Housing*		Total Housing Units Completed**
	Buildings	Units	
1958	18	2,071	32,300
1959	53	6,180	37,200
1960	40	5,184	35,200
1961	48	6,955	35,100
1962	60	8,321	47,300
1963	93	13,702	60,000
1964	55	10,762	51,000
1965	34	7,146	49,500
1966	15	2,885	32,000
1967	19	3,630	22,900
1968 (est.)	5	1,154	20,000
Average 1958 - 1968	40	6,180	38,500

*Douglas L. Elliman Letter, March 1968; study conducted by Alfred Schimmel, Vice-President in charge of Appraisal and Research.

**Figures for all housing units completed (privately-financed, public housing, and publicly-assisted housing) furnished by the New York City Housing and Development Administration.

- high costs and financing difficulties; and
- in some cases, problems of project management and of coordination with city agencies and related city construction.

These and other factors have produced a situation where the cost and difficulty of producing new housing are too high, and the returns available at marketable rents are too low to make housing a widely attractive investment, especially in competition with other investment opportunities.

New York City's Housing Needs, Priorities and Programs

In terms of population composition, the economic needs of New York City would be best met by increasing the number of high-income households that live in fully-taxpaying housing, contribute a minimum number of children to the public school system, make minimum demands on the city's police and social services, and spend money within the city in ways that contribute to local employment.

In addition to more high-income families, the city needs to stem the outflow of middle-income families, whose departure has helped to rend the social fabric of deteriorating neighborhoods.

However, the greatest social need in the housing field is for adequate quarters for the large numbers of low-income families that already live in, or will move to, New York. As stated above, this housing can only be produced through public and publicly-assisted housing and must be coupled with significant increases in expenditures for public services.

New York City's program for housing improvement includes, among other items, improved code enforcement, housing rehabilitation, demolition of abandoned buildings, improved municipal services (including construction of schools, libraries, and streets to support housing construction), technical assistance to non-profit housing sponsors, tax exemption or tax abatement for new construction and for major repairs, rent control, and financing through bond issues.

This current program is vastly more complex than earlier programs in which urban renewal—which often involved slum clearance to build offices and luxury housing—was the major element. The city's housing efforts are now being channeled primarily into three sectors—model cities, new communities (such as the Annadale-Huguenot project in Staten Island, Waterside-Riverview East in Manhattan, Linear City in Brooklyn), and the Mitchell-Lama financing program.

The following quotations, taken from the June 1968 New York City document entitled *Workable Program for Community Improvement - 1967* illustrate some of the city government's own priorities and activities as of the end of 1967:

“The major thrust of the City's housing and community development activities is now being concentrated within the Model Cities areas of Central Brooklyn, Harlem and the

South Bronx—areas of the most widespread decay and deprivation in the city, and yet areas of great potential. The Model Cities program provides an opportunity to marshal the city's resources for a coordinated attack on the problems of these areas where more than 800,000 people live."

"The City is already well underway in the execution of its Model Cities program. New York was the first city in the nation to commit its own funds, even prior to Federal government approval of the program in November, 1967. The City took the initiative with an allocation of \$25 million in the 1967-68 Capital Budget for a 'headstart' Vest Pocket Housing Program that will produce some 8,000 apartments in the three Model Cities areas."

"As the name suggests, Vest Pocket projects are designed to fit into the physical character of the neighborhood. Initial construction will be undertaken on empty lots or where vacant buildings can be demolished. The sites will be acquired by the City, cleared and turned over to developers—low enough to make development possible. To do this the City will 'write down' the land, that is, absorb the difference between the acquisition price and the actual sale price. Emphasis will be on neighborhood preservation. By using neglected and underutilized sites, relocation will be kept to a minimum. Families who must move will have first priority for the new and rehabilitated apartments."

"Of the initial 8,000 units to be provided under the Model Cities Vest Pocket program, 6,000 will be in new buildings and 2,000 in rehabilitated structures. And of the 8,000 total, approximately half will be low-income public housing, and half will be privately sponsored for moderate-income families."

"During 1968 a major step forward has already been taken—the City has begun to take title to sites for about 4,700 new apartments in the South Bronx and Central Brooklyn . . ."

"In a period when housing produced by (the) private sector has been declining, redoubled efforts have been undertaken to increase production of low- and moderate-rent housing. The 8,000 unit Model Cities Vest Pocket program represents only part of the vast housing efforts of the City. Another 3,300 housing units are planned for the Twin Parks area of the Bronx, and 1,700 on scattered vest pocket type sites elsewhere in the city. The Housing Authority has 6,200 low-income apartments now under construction, over 3,000 pending construction, and in the past year has completed 1,350 units. Meanwhile, a series of changes within the administration of the City Mitchell-Lama

program has been instituted to reduce processing time and to accelerate construction of Mitchell-Lama housing. About 9,800 apartments were completed in the past year; another 3,400 are under construction, and some 28,000 are in various stages of planning and processing."

During 1967, the aggregate public and publicly-aided housing program increased by 12,160 units. 13,418 units were completed during the year, resulting in a decline in the number of units actually under construction. This decline was largely offset by the number of units pending construction, which increased by 5,239."

"Public and publicly-aided housing completed, under construction or pending construction now numbers 304,191 units—sufficient to house the entire population of Baltimore, Maryland, the nation's sixth largest city."

Table E-4

**Status of Public and Public-Aided
Housing in New York City***

	Public Housing		Change
	Dec. 31, 1966	Dec. 31, 1967	
Total Units	158,683	163,273	4,590
Completed	142,934	144,287	1,353
Under construction	6,011	6,185	174
Pending construction	9,738	12,801	3,063
	Publicly-Aided Housing		Change
	Dec. 31, 1966	Dec. 31, 1967	
Total Units	133,348	140,918	7,570
Completed	92,200	104,265	12,065
Under construction	22,454	15,783	-6,071
Pending construction	18,694	20,870	2,176

*Source: Workable Program for Community Improvement - 1967

Housing on Welfare Island

Given the housing needs of New York, discussed above, the next problem is to determine whether Welfare Island can and should be used to meet part of those needs. This determination will involve consideration of the advantages and disadvantages of the island site, transportation, suitable tenants, desirable housing densities, appropriate locations, supporting facilities, utility requirements and methods of financing. The decision also involves a balancing of the interests of one extremely small percentage of citizens who would be served by housing on Welfare Island against the broader interests of the New York community as a whole, which would be served by possible other uses.

The following section discusses the above factors, and concludes by presenting some of the alternatives available in making an over-all land use decision.

The Island Site

Welfare Island is an island, and no foreseeable transportation system can make it an integral part of Manhattan or Queens. It will always retain some degree of isolation and separateness. This can be an asset as well as a liability. The east and west channels of the East River provide both open space and a view of flowing water, both of which have appeal. The separateness of the island makes it possible to define and control its development, without fear of degrading adjacent influences. A thoughtful design could provide a restful sense of refuge from the unpleasant influences in city life, while improved transportation could relieve the present sense of isolation from the desirable aspects of city life.

The major opportunity afforded by the island, aside from its physical setting, is the existence there of a major block of land that would be made available without the usual problems of acquisition. Assembling sufficient land for a project of economic size in an existing neighborhood is painfully difficult, even with the powers of condemnation. In most areas, one of the most difficult phases of land acquisition is tenant relocation. In the early days of urban renewal this problem was dealt with rather summarily, but an increased social sensitivity, as well as the increased political consciousness of ghetto residents, has intensified the problem. With Welfare Island, the only relocation problems would involve the Fire Department Training School, a garage, and a laundry.

The major potential drawbacks to the use of Welfare Island for housing involve transportation, competing uses for the island, and the fact that *any* intensive development would preempt the possibility of yet unspecified future development.

Transportation

Appendix C discussed the general problems of transportation to and from Welfare Island. The specific problems of transportation for a housing community are discussed below.

Of all forms of island development, housing would produce the maximum rush hour passenger load to and from the island in the direction of the predominant rush hour traffic—i.e., from the island to Manhattan in the morning and from Manhattan to the island in the evening. Although some traffic would be generated in off-peak hours and some in on-peak hours against the main flow—e.g., from Manhattan to the island or from the island to Queens in the morning—the critical traffic would be with the rush hour tide.

Most of this travel would be by subway, through a Welfare Island station on the new 63rd Street tunnel. Bus or automobile transportation to and from the island for large groups of people is not practical during rush hours, although small groups could be transported by these means during rush hours, and large groups could be handled by bus in off-peak hours, if suitable loading facilities and some additional traffic controls were provided.

Even though the 63rd Street tunnel could handle the loads, there remains a serious question, however. Would middle and upper-income families move to Welfare Island if access depended principally on use of a single subway station? Several housing experts consulted felt that such families would be reluctant to come under those circumstances, although transit on the upper East Side also depends primarily on a single subway.

In the event of a subway strike or operating mishap, travel to and from the island would be extremely difficult, although not more difficult than travel to work for residents of outlying areas of Bronx or Queens during similar transportation tie-ups. The problems of depending on one mode of transportation—especially for essential (going to and from work) travel rather than for more marginal recreational travel—do illustrate the necessity of studying economically feasible methods of providing supplementary transportation.

Vehicular access would be required to support island housing. Residents of middle-income or luxury apartments particularly would require both parking for private automobiles and convenient access to taxis. Easy bus access would also be desirable to provide a mass transit supplement to the subway. At the same time, it would be unfortunate if the island's surface were chopped up and dominated by roads to the extent that occurs in a typical city.

New transportation systems of various types are possible. Because of the island's length, some form of intra-island transport would be essential. The choice between the various modes discussed in Appendix C should be based on economy and on compatibility with the over-all development design. Extensions of the intra-island system to Manhattan, or a separate Welfare Island-Manhattan link would be desirable if it could be justified economically. Unfortunately, a new transit link to Manhattan would probably require a high fare to be self-supporting. However, if housing were combined with attractive recreation on the island, it might be possible to operate a new island-to-Manhattan system at high capacity over extended portions of the day and night and thus bring fares down to an acceptable level.

Tenants

In terms of economic return to the economy of New York City in general, and the finances of the city administration in particular, the most advantageous use of the island would be for luxury apartments. Real estate experts estimate that, with good transportation links to Manhattan and excellent design, Welfare Island land would be worth up to \$100 per square foot for luxury apartment development.

Many of the most important criteria for developing the island are not economic, however, and a housing development consisting exclusively of luxury apartments does not appear either feasible or desirable. Luxury apartments are one of the few forms of housing in New York that are totally economically self-sufficient and can be built without special help from the city. To use city-owned land for luxury housing, in view of the demands for construction of low and middle-income housing, would be socially and politically unsound.

On the other hand, if some portion of a total housing project on the island were designated for low-income families, some for middle-income and some for upper-income, it could be both economically feasible and socially useful.

Regardless of whether housing generally is provided on Welfare Island, there should be built housing for 500-1,000 physically disabled persons who would profit from proximity to the hospitals, but do not need to live in them. In addition, it would be desirable to include 1,000-1,500 units reserved for medical staff.

Location, Size and Density

The contiguous area on Welfare Island available for development stretches southward from the Metropolitan Hospital area to the edge of Goldwater Hospital, about 80 acres in all. Use of this entire area presupposes transfer of the Fire Department Training School to another location, and removal or relocation of the Central Laundry, Hospital Garage, and possibly the Power Plant. These are all reasonable assumptions, given a sufficiently worthy and intensive new development.

Housing could be designed to occupy this entire area. This, however, would exclude other uses of the readily available land on the island. Given the location and access situation of the island, a housing community would be more viable if it could be combined with other forms of development, such as parks. Specific proportions would have to be worked out in a detailed design study.

In selecting a construction density for housing, several factors may be considered:

- This is an urban area of great potential value, and relatively high densities are appropriate.
- High density is not the same thing as crowding. Good design can achieve an open, varied, and uncrowded appearance.
- The final determination of the appropriate density will have to be a function of the selected design, and not an arbitrary assignment of numbers of units per acre.

Considerations of available space, problems of transportation, and the desirability of leaving some options to the future combine to suggest the possibility of an initial housing development of 4,000-5,000 units on the island. Such a development might contain 10,000-14,000 residents. The final population figure would depend in part on the proportions of various groups represented. Low-income families tend to be larger than high-income. Housing for the elderly would probably contain a high proportion of efficiency units. Hospital staff families would probably resemble a typical population cross-section.

Public Facilities

A housing project, to be successful, must insure its prospective tenants adequate public services, especially schools. In most projects, these facilities are constructed by the city, and their completion sometimes falls behind completion of the housing units. In the future, developers of very large projects will probably find it advantageous in the long run to construct most or all public facilities and turn them over to the city for operation. (In one case—Co-op City—the developer found that he could provide public libraries, built to city specifications, at 60 percent of the normal city cost of construction.)

A fire station on the island may be required in view of the limited vehicular access from other parts of the city. Recently-built stations have been 13,000 square-foot 2-story buildings on 7,000 square-foot sites, costing about \$600,000.

A regular police station would probably not be required, in view of the current trend toward consolidating precincts and abandoning existing stations. However, some form of police office on the island, possibly built in conjunction with the fire station, might be desirable. In addition, facilities for private guard service may be worth considering, particularly if commercial facilities are included with the housing.

Schools may be required to support a housing development, depending on the population's size and composition, although representatives of the Planning Commission's School Planning Division doubt that any conceivable development on Welfare Island would justify a new high school there. Manhattan, with high school enrollments dropping, has several existing and planned high schools relatively accessible from the island—e.g., The High School of Art & Design, replacements for Commercial High and Haaran High. Since Welfare Island is within the geographic limits of Manhattan, which extend to the eastern edge of the East River, it is assumed that the island would be in a Manhattan school district.

Kindergarten, elementary school and intermediate school facilities, otherwise a burden on the city's Capital Budget, could be built by the developer, if required. Combined with housing, they can be financed through the Educational Construction Fund (income from rents pays for the school).

Tables E-5 and E-6 show the bases used informally by the City of New York for estimating school requirements for new developments.

Table E-5

Standard School Populations and Space Requirements

	No. of Pupils	Sq. Ft./Pupil	Space Required
Early Child-hood facility	150	83	13,000 sq. ft. (3,500 sq. ft. play area)
Elementary School	12-1400	85	90,-100,000 sq. ft. (30,000 sq. ft. play area)
Intermediate School	1800	100	120-130,000 sq. ft. (60,000 sq. ft. play area)
High School	4000	110	12 acres (athletic field 6-1/2 acres or 400x800 feet).

Table E-6

Estimated Public School Pupils per 100 Housing Units

School Grade	Low-income	Middle-income	High-income
K-4 (Elementary)	65	15	Negligible
5-8 (Intermediate)	45	10	”
9-12 (High)	35	8	”

The quality and atmosphere of Welfare Island schools would have a major influence on the willingness of middle-income families with children to locate on Welfare Island. They will wish to be part of a local school district whose goals they find compatible with their own. A good academic high school must be available. It may also be desirable for the over-all design to provide some commercial space suitable for a private school.

Library standards are to be revised as part of a study soon to be undertaken by the Parks, Recreation and Cultural Affairs Administration, and Welfare Island may provide opportunities for innovation. Meanwhile, 10,000 square-foot reference libraries are being constructed for a 50-60,000 population, and 7,500 square-foot reading libraries, catering primarily to children and teenagers, are being constructed to serve large, low-density areas.

Additional health facilities, may be less necessary because of Coler and Goldwater Hospitals. However, HIP facilities providing diagnostic services from pediatrics up will normally follow a population that can afford them.

Utilities

Any major development will require modifications to the existing systems for solid and liquid waste disposal and for supply of water, electricity, gas and steam.

Solid waste disposal on Welfare Island is handled through incineration of a portion and removal of the remainder by truck. If the island is intensively developed for housing or for other purposes, it would be desirable to incorporate solid waste disposal systems into the over-all design. Such a system could utilize either a modern incinerator on the island, with appropriate air pollution controls, or a barge loading station for removing waste from the island.

Liquid waste disposal on the island now consists of dumping raw sewage directly into the East River. For over two decades, the City of New York has had plans to install a sewage collection system on the island. The only portion of this network ever installed was a 10-inch line around Coler Hospital, which was never connected and now lies unused.

The Bureau of Water Pollution Control has plans to remove the sewage from the island through a force main passing under the East Channel and connecting to the main sewage interceptor system in Queens leading to the Bowery Bay treatment plant. However, the Bowery Bay Plant has a maximum capacity of 120 million gallons per day (mgd) and is now receiving approximately 115 mgd. Expansion of this plant, according to the Bureau, is not

feasible. Of the five mgd in remaining capacity, one mgd has been allocated to Welfare Island. At an estimated rate of 200 gallons per capita per day, this would provide for a population of 5,000 on the island. This is very close to the number of people now living and working on the island.

It is clear that any substantial future development will require a revision in the Bureau's present plans. These revisions might include:

- expansion of the presently proposed interceptor and the Bowery Bay plant to accommodate the additional load;
- transfer of Welfare Island sewage to a different plant (conceivably a force main could be built under the West Channel and sewage delivered into the Manhattan interceptor system that empties into the Wards Island Plant); or
- construction of sewage treatment facilities on Welfare Island that would discharge treated effluent directly into the East River.

The sewage problem is a difficult one, but not impossible to solve. Additional studies are required to further define the alternatives described above and to seek new alternatives if possible.

Water presently comes on to the island from mains hung on the Queensboro Bridge. Since the new water tunnel from Manhattan to Queens will cross below the northern tip of Welfare Island, and will include a riser that could supply any conceivable level of development on the island, water supply is not a limiting factor in planning new development.

Electricity and gas supply to the island will not limit new development either. Although new feeders may be required, there should be no special problem in providing them.

Heating and process steam for the present buildings now comes from the Welfare Island power plant, located in the shadow of the Queensboro Bridge. It is capable of carrying some additional load, but not enough to support steam requirements for heating or cooling a major housing development.

The question is whether to generate steam off-island, expand the present plant, or build a new plant on-island. These are all possible.

Appendix F

A NUCLEAR POWER PLANT

Consolidated Edison's Proposal

Consolidated Edison's staff has been considering several potential sites for new large nuclear power plants. In their view, the most desirable plant location would be that portion of Welfare Island south of the Queensboro Bridge. They would hope to build a plant consisting eventually of three units, each unit consisting of a reactor, a steam turbine, and a 1,000 megawatt (1,000,000 kilowatt) generator. The plant would also produce steam for the district steam network supplied by Consolidated Edison.

The proposed plant on Welfare Island would be connected to existing switchyards and, as a result, there would be no major switchyard on the island itself. The principal tie, via under-river tunnel, would be to Manhattan, with perhaps a smaller tie to the switchyard adjacent to the Ravenswood Plant.

Consolidated Edison estimates that this plant would cost approximately \$200 million per 1,000 mw unit. This estimate does not include any payment to the city for use of the land, nor does it include the cost of relocating Goldwater Hospital. Consolidated Edison's planning has been based on the impression that the city was planning to tear down Goldwater.

The AEC would not now approve such a plant, and Consolidated Edison envisages that it could not, therefore, go into operation in less than ten years. Consequently their concern at this point is to avoid developments on the island in the meantime which would foreclose that future option.

The Need for New Power Sources

According to Consolidated Edison, there is an understanding with the City of New York that Con Ed will not build any new fossil-fueled plants in the city. For this reason, they feel that it is essential to construct nuclear powered plants eventually in the city to supply electric power and steam.

Three other sites for potential large nuclear power plants for Consolidated Edison are now receiving a preliminary evaluation in the AEC. None of these sites are within the city and, therefore, none of them are suitable for district steam production.

Consolidated Edison now supplies district steam in two areas of Manhattan—from the Battery to Canal Street, and from 14th Street to 96th Street. The estimated peak load during this winter (1968-1969) is estimated to be 12.5 million pounds of steam per hour, and the peak is expected to grow to 20 million pounds per hour by 1990. The growth in the early years is expected to be more rapid than in later years because of the number of buildings that will be shutting down their own heating plants and buying district steam to avoid the expense of converting their existing plants to meet new air pollution regulations.

Consolidated Edison generates power with fossil-fueled (coal, oil and gas) and nuclear-fueled steam turbines, and with gas turbines. It also purchases some power from outside sources through intersystem tie lines. The expected growth of the system's generating capacity and power consumption from 1967 to 1973, when presently committed additions to the system should be in operation, are shown in Table F-1.

Table F-1

Consolidated Edison Power Generation

		1967*	1973**
Peak load	(million Kw)	6	8.35
Total generating capacity	(million Kw)	7.8	10.31
Annual power supplied	(million Kw-hrs.)		
— fossil-fueled steam turbine		27,500	19,214
— nuclear-fueled steam turbine		1,600	16,220
— gas turbine		2	195
— outside purchase		800	2,721

*from Consolidated Edison's annual report to the Federal Power Commission.

**estimates supplied to D&R by Consolidated Edison.

In 1967, fossil-fueled plants located on the East River accounted for 85 per cent of Consolidated Edison's generating capacity, and two of these plants, the relatively new and large Astoria and Ravenswood plants, together accounted for about 43 per cent.

The reduction in power generated by fossil-fueled plants shown in the table above will result from the retirement of the Hell Gate plant in the early 1970's, together with the increasing use of nuclear plants for base load and the older fossil-fueled plants for peaking loads. Besides the Hell Gate plant, whose units average 41 years in age, Consolidated Edison may be able to accelerate the retirement of the old Waterside and Kips Bay plants on the East River.

The Advantages of a Welfare Island Site

From Consolidated Edison's point of view, the Welfare Island site has several considerable advantages. AEC regulations require a minimum exclusion area around a nuclear plant for safety reasons. Being on the end of an island, a natural exclusion radius of about 1,000 feet exists to the west, south and east of the proposed plant site. A similar exclusion distance on the north would be provided by a proposed 13-acre park between the plant and the Queensboro Bridge.

Another reason why the southern end of Welfare Island is preferred over other possible locations is its proximity to the center of the steam load in mid-town Manhattan. Even if the plant were moved further north on Welfare Island, this advantage would be somewhat diminished.

The construction costs of a nuclear generating plant can be lower in remote locations, because cheap land can be used to obtain clearances from the plant in lieu of providing additional shielding at a higher cost. However, Consolidated Edison feels that the combined cost of plant *and* transmission line construction would be lower for a Welfare Island site than for *any* other potential site. This estimate is based on the following assumptions:

- the overhead transmission corridors from the north into New York City are either already fully utilized or will be fully utilized when present projects are completed,
- no new overhead transmission corridors will be authorized because of public objections, and therefore
- underground transmission will be required from future plants outside of the city to the distribution network.

Underground transmission of 400 mw would cost approximately \$1 million per mile. The output of a 3,000 mw plant would, therefore, cost something in the neighborhood of \$7.5 million per mile. If we assumed a plant located 40 miles from the point of connection with the distribution network, the cost of transmission would be approximately \$100 per kilowatt, or a total of \$300 million. According to Consolidated Edison, however, the real problem is not the economic penalty associated with underground electric power transmission, which may change in the future, but the physical impracticality of transmitting steam for long distances.

Problems of Nuclear Plant Siting

Nuclear generating units of the size proposed (1,000 mw) are just beginning to be built for the newest and largest plants, such as the Brown's Ferry plant for TVA in Alabama and the Oyster Creek plant in New Jersey. Initial indications are that plants of this size may be economically competitive with other sources of generation, provided that current capital cost estimates are not excessively exceeded by actual costs. Plants of this great size are still unproved in service, and their reliability at high capacity factor operation on a major system is still to be demonstrated. The new large plants at Brown's Ferry, at Oyster Creek, and elsewhere are not located near major centers of population. Although recent plant designs have taken advantage of past experience to improve safety factors, it is felt that substantial operating experience should be accumulated with the newest very large plants before locating any of them in the center of a major urban area.

The Welfare Island site for such a plant would not now be approved by the Atomic Energy Commission. Consolidated Edison feels that the AEC might approve such a site in time to put the plant into initial operation within a decade at the earliest. On the other hand, they acknowledge that it might take longer. At present, they are principally interested in insuring that such a site would not be foreclosed to them at a future date when they expect to receive AEC approval.

Summary of Consolidated Edison's Position

Consolidated Edison's interest in Welfare Island as a nuclear plant site is based, therefore, on:

- the need to accommodate growing demands for steam and power;

- the impossibility, *under present agreements* designed to reduce air pollution, of constructing new fossil-fueled plants;
- The proximity of Welfare Island to the center of the heaviest steam and power loads; and
- the natural exclusion clearances on three sides and the good foundation conditions provided by this island site.

Influences on Future Planning of Welfare Island

Until and unless the AEC approves Welfare Island as a nuclear plant site, Consolidated Edison can only ask that future development of the island not foreclose the eventual possibility of locating a nuclear plant there.

Consolidated Edison envisages using the lower third of the island, which would involve removing both Goldwater Hospital and the vacant buildings of the old City Hospital. If Goldwater is left for the present and if City Hospital is replaced with a relatively low-density use, such as a park, Consolidated Edison's future options would not be substantially changed. If, however, high rise housing or other intensive land use replaces the present buildings, the future possibility of building a nuclear plant would be substantially foreclosed.

Meanwhile, future developments may alter present ideas about the desirability of locating a nuclear plant on Welfare Island. These developments may include:

- operating experience of nuclear plants elsewhere which may establish the acceptability (or non-acceptability) of large plants within urban areas;
- advances in air pollution control equipment which may affect the desirability of adding fossil-fueled steam plants within the city; and
- changes in the economics and technology of steam and power generation and transmission which may substantially alter Consolidated Edison's options and/or preferences.

